PULP & PAR

AUGUST 1958

Govt.-Financed Mill Issue

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A Strong Maintenance Dept.

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The Georgia-Pacific Story

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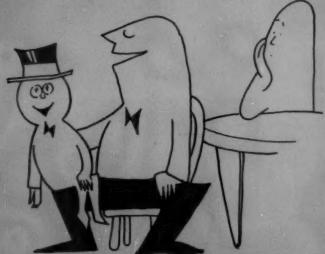
1. How to Wreck a Conference . . .



Ask leading questions, as: "You surely aren't casting doubt, are you, on the validity of the Zwibelfoos Survey?"

They'll agree, to avoid admitting they haven't heard of the survey, but the Meeting will sour from this point on.

Answer all your own questions. It may take some juggling, but it's the only way to insure the right answer.



2. How to Make it Succeed . . .

Champion Paper & Fibre management engineers tell how to have successful meetings page 38

First midwestern mill to use Ammonium Bisulfite Pulping reports big saving in costs; "would never go back to calcium-base process."

Seven years ago Wausau Paper Mills converted its big pulp mill at Brokaw, Wisconsin to Ammonium Bisulfite Pulping—the first mill in the Middle West to adopt this process. What does Wausau think of A.B.P. after seven years of experience? David Smith, president and general manager, sums it up this way: "Now that we've used ammonia, we'd never go back to lime."

Cooking Time Down, Yield Up

Although acid made by A.B.P. is a little more expensive than with the calcium-base process, this cost was more than offest by the shorter cooking time required with ammonia. This has reduced the cost of steam per ton of pulp, at the same time permitted an increase in output. Wausau's three digesters were cooking 85 tons a day with the calcium process. Now they produce 100 tons a day, could turn out even more if the need arose.

Yields from the wood itself have gone up, too, because there are fewer rejects during screening. These used to run 3 or 4%, now average about 1%, depending on the wood used, number of knots, etc.

Ammonia has also given the mill wider choice of pulpwoods. Almost any species can be used-soft woods such as spruce, hemlock, tamarack, larch and balsam; hardwoods such as birch and maple.

 Illied

hemical

Less Maintenance

At Wausau the switch to ammonia has eliminated entirely the maintenance problems associated with "liming-up." Strainers haven't clogged up once in seven years. Previously, they had to be cleaned every three months, while acid and relief lines required attention at least once a month. The company says that digester room maintenance has been reduced since they converted to A.B.P.

Easier Pollution Control

The unpopularity of pulp mills with their down-stream neighbors has engaged legislative attention in most of the paper-making states. This was another consideration in Wausau's decision to switch to ammonia. Pulping wastes from the process can be evaporated or burned, need not be fed into streams to cause pollution. (Wausau ponds its spent liquor on an island, but with some additional capital investment it is possible for mills to recover it.)

Conversion Was Easy

Allied Chemical's Nitrogen Division, which pioneered Ammonium Bisulfite Pulping, helped Wausau plan the conversion of its lime pulping unit to Ammonia than Allied.

ammonia, and Allied engineers worked closely with Wausau's staff to put the new process onstream.

Three inter-connected storage tanks were built. Two of the tanks hold anhydrous ammonia. The third, used for mixing, contains aqua ammonia at a maintained concentration of 20%. A new absorption tower for acid making was constructed. It is lined with tile and filled with layers of Raschig rings, over which ammonia trickles down while gas flows up. Some sulfite mills have converted their Jennsen towers to ammonia absorption duty by lining them, but Wausau found it more economical to build a new unit.

Automatic controls eliminate all guesswork and permit concentration of acid to be held constant or, when desired, quickly changed.

Trend to A.B.P. Seen

Today, about 16 mills are using the Ammonium Bisulfite Pulping process in the U.S. and Canada for acid-making. Allied Chemical has helped many of these mills with technical counsel and, as a leading ammonia producer, supplies many of them with the anhydrous ammonia on which the process is based. A number of other mills are studying the advantages of A.B.P.: shorter cooking time, wider use of woods, less maintenance, increased yields and, at lower cooking temperatures, better paper quality.

Let's talk it over . . .

If you're engaged in sulfite pulping, let a technical specialist from Allied tell you about the economies of Ammonium Bisulfite Pulping. Remember, no one has more experience with

Allied Ammonia is available in







Nitrogen Division

Department AA11-25-2

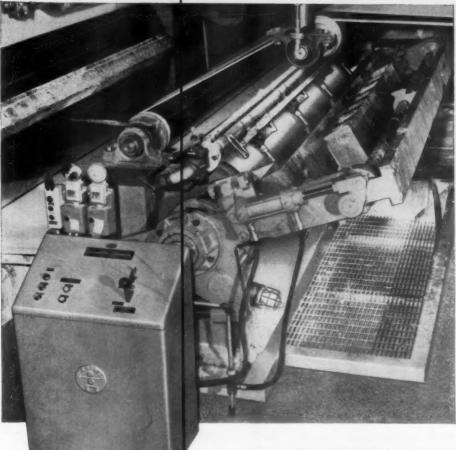
TANK CARS

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Smart People are buying the Rice Barton

TRAILING BLADE COATER



At coating discussions across the nation the number one subject has been, and still is, the Rice Barton Trailing Blade Coater. Forward looking mills have gone beyond the talking stage and to date over 42 Rice Barton Trailing Blade Coaters have been purchased.

The high standards of quality and printability set by these installations make the Rice Barton Trailing Coater the coater that you should buy.

Remember — Don't Gamble.

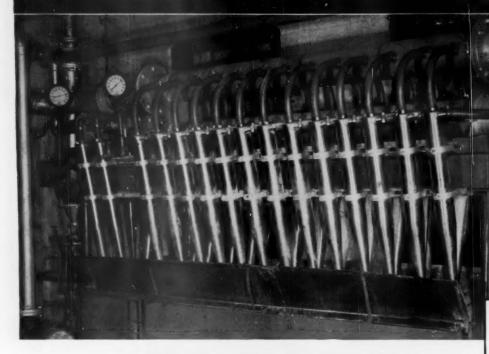


RICE BARTON CORPORATION

WORCESTER, MASSACHUSETTS

Paper Machinery Builders Since 1837

Pictured are thirty-six of seventy-five 4'' Bird Cycleans handling deink stock. Cycleans are also available in 7'' and 12'' dia. Inlet capacities range from 36 to 850 gpm per Cyclean.





Are Bringing the Mill

FIVE BIG BENEFITS

- Quality and uniformity a truly tremendous improvement due to the superior ability of the Cyclean to remove shives and fine dirt
- 2. Production an increase of ten per cent
- 3. Wire life increased one third

- 4. No more midweek washups
- Machine breaks almost eliminated

Bird Cycleans are compiling equally striking performance records on a variety of stocks in a growing number of mills. May we supply complete information, layouts and estimates?



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AUTOMATIC

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(Patent Pending)

PULP & PAPER

Reader's Guided Tour

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CIRCULATION DEPT., 500 Howard St., San Francisco 5, Calif. C. C. Baake, Circ. Mgr. Send subscription orders and changes of address to PULP & PAPER, above address. Include both old and new addresses.

RATES (including World Review Number): U.S., Canada and Latin America—I yr., \$4; 2 yrs., \$6; 3 yrs., \$5. Other countries—I yr., \$5; 2 yrs., \$8; 3 yrs., \$11. Sterling area orders may be sent to: Harold F. deLooze Ltd., 7 St. James Square, Manchester 2, England.

PULP & PAPER is published monthly, except July when publication is semi-monthly, at Bristol, Conn., by Miller Freeman Publications, Incorporated. Entered as second class matter, Dec. 4, 1951, at Post Office, Bristol, Conn., under Act of March 3, 1879.

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equipped for "economy in the long run"

This new 262" machine of Georgia-Pacific Paper Company, designed for 125 lbs. of steam in the dryers and a speed of 2,000 F.P.M., is fully equipped with ASTEN Dryer Felts—another example of how ASTEN Felts so often are selected for "economy in the long run."

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Vancouver 3, Can.-402 Pender St., W., MUtual 5-7287

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The Editor Reads His Mail



Address letters to The Editor, PULP & PAPER, 1791 Howard St., Chicago 26, Ill.

Different Kind of Story

-Combined Locks, Wis. Editor: We have had several very favorable comments on the different way you presented the selection and installation of the new drive equipment for Combined Locks Paper Co.'s No. 5 machine your June issue.

JOHN J. ROUMAN Chief Engineer, Combined Locks Paper Co.

How's Business?

-Portland, Ore. Editor: Now that our new mill is runing smoothly, and we turn our alleged energies from engineering and production to sales, we recall a brief exchange we once heard on the streets of Hollywood:

"How's business, Abe?" "Colossal-just colossal!

. . But it should pick up soon." One last minute enclosure (a picture of the mill), now that all the walls are up and steam is coming from the stacks at Toledo. If you still have the original architect's drawing, you will agree that he made a pretty accurate forecast.

H. S. DANIELS President, Georgia-Pacific Paper Co.

Recent Visitor to Russia Okays P&P Report in July

Editor: The data concerning logging and forestry in Russia (a panel discussion at The Institute of Paper Chemistry, published in PULP & PAPER, July issue, p. 39, July 1958 issue) is essentially correct or mostly correct.

> A. KOROLEFF Pulp and Paper Research Institute of Canada

Eds. note-Mr. Koroleff, a logging and forestry specialist, recently made a trip to Russia and came back with reports that \$3 billion a year is being spent on mechanization of Soviet operations and 100,000 power saws are in use. The Institute panel, mentioned above, found some backwardness in forestry and logging in Russia. Presently, Mr. Koroleff said, output of Soviet loggers is only half that of North Americans.

Hails P & P INTERNATIONAL

Editor: I am delighted PULP & PA-PER INTERNATIONAL is on the way. I look forward keenly to seeing the first issue of your new interna-

tional magazine for this industry. C. W. "BILL" CONVERSE Joint Managing Director, Black-Clawson International

Pulpwood Use in Northeast -Which "Northeast" is Query

-Moline, Ill.

Editor: The article "Debate Pulpwood Rack Cars" in the June issue of PULP & PAPER gave an estimate of about 5 million cords of pulpwood harvested annually in the northeast states. Other estimates we have for the northeast states indicate that annual production is closer to three million cords.

Would you please give us the source of the estimate published in PULP & PAPER so we can check on the differences in the estimates?

H. ALLAN FULTON Economic Research Department Deere & Co.

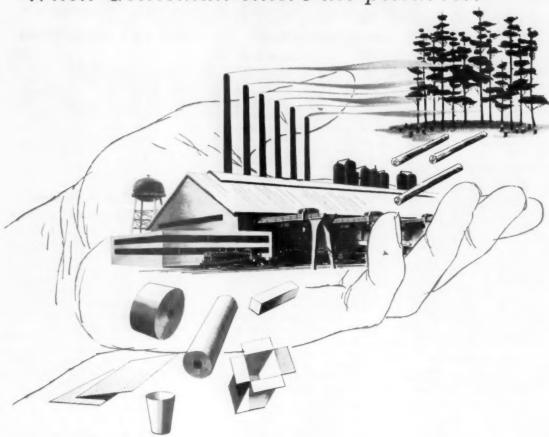
Eds. note-The 5,000,000 cord figure was an estimate for both the New England states and Delaware, New York, Pennsylvania and New Jersey combined. The 3,000,000 cord figure referred to is, undoubtedly, for New England alone. Source for PULP & PAPER's estimate was the American Pulpwood Assn., which actually reported 4,821,000 cords used in 1956 and 4,820,069 cords used in 1957 in the larger Northeast area. This does not take into account inventory, which in the Northeast is usually pretty big-with 1.7 to 2 million cords on hand.

Liked Pulpwood Annual

-Toledo, O. Editor: As usual you have done an excellent job in editing and presenting the results of the annual meeting of the American Pulpwood Assn. in your Pulpwood Annual.

GEORGE W. ABEL Director of Technical Forestry Owens-Illinois Mill Division

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General Outlook

- "A GOOD PLACE TO INVEST YOUR MONEY. . . . That's the pulp and paper industry, according to William L. Moise, vice pres. of Blyth & Co., New York investment brokers. He points out that, for a number of years, average return on net capital invested in this industry has been 10 to 12%; last year 14 companies with sales over \$100 million averaged 10.7% return on net worth. While aggregate paper consumption showed a slight decline last year and in the first quarter of 1958, the industry currently is operating at 87% of capacity.
- *DRAMATIC INCREASE* IN VOLUME of building materials sales is reported by George J.

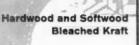
 Pecaro, pres., The Flintkote Co. *Business today is good, he said, and
 the company is optimistic about the remainder of 1958. Flintkote recently
 acquired the Utah Lime and Stone Co. through an exchange of common stock.
- PAPERBOARD PRODUCTION IS RISING. . . . It hit high for 1958 during the week ended June 14. Mills produced 290,704 tons of paperboard, compared with 248,617 the week before and 287,444 in the like week a year ago. Operating rate jumped to 90% of capacity.
- BUSINESS IS SO GOOD IN NEW ZEALAND that skilled workmen are being imported from England and Europe. The country is seeking to diversify its economy with its mushrooming pulp and paper industry.
- SEES VAST INCREASE IN USE OF SHIPPING CONTAINERS. . . . Kirk Sutlive, industrial relations manager of Union Bag-Camp in Savannah, says studies indicate that by 1975 box concerns will be using about twice the tonnage of shipping containers they are using today.
- INDICATIONS OF UPSWING. . . . Because the pulp and paper industry is so important in Canada's economy, the market for that industry's stocks may be more sensitive than elsewhere. For that reason it may be significant that pulp and paper stocks generally have been rising recently.

New Mills and Mill Plans

- STARTS BIG EXPANSION PROGRAM. . . . Union Bag-Camp's multi-million dollar expansion and modernization program at Savannah, Ga., started officially with construction underway on a new building to house No. 7 paper machine, expected to start up in Jan., 1960. Franklin, Va., expansion, including new Beloit machine, is well along.
- DOUBLES PRODUCTION. . . . Minas Basin Pulp & Power Co., Ltd., and subsidiary companies at Hantsport, Nova Scotia, are completing expansion that doubles production. The firm has a new license agreement with Keyes Fibre Co. of Waterville, Me., to manufacture all Keyes pulp molded products distributed in Canada.
- NEW BAG AND ENVELOPE EQUIPMENT is being installed at the Racquette River, K.Y., div. of Orchard Paper Co. Orchard makes identical product lines at three plants in the east, midwest and west coast areas.

Please turn page for more

THURSO OUALITY PLIES





Quality Control From Forest to Finished Product

We use carefully selected hardwoods and softwoods from our own huge timber reserves and process them in the new, ultramodern Thurso mill...utilizing the latest in equipment and the most advanced manufacturing techniques...to meet the exacting standards of our quality control and research sections.

The result-high quality pulps of uniform brightness, strength, consistency and workability.

Thurso can deliver the kind of pulp you want, when you want it. Specify Thurso Bleached Krafts. Manufactured by Thurso Pulp & Paper Co., Ltd., Thurso, Province of Quebec, Canada.

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- WILL START CONSTRUCTION SOON. . . . Gordon McNab, pres. of Alberta West Forest Products Corp., Ltd., and formerly with St. Regis, says construction of a new \$15 million mill between Edmonton and Fort Saskatchewan will start within a year and be completed in three years. Surveys have been made by Johnson & Johnson, Chicago engineers and architects. Alberta granted a 21-year lease on 2,483 sq. mi. of timber land west of Whitecourt, and another 2,500 sq. mi. will be set aside for future expansion.
- GETS 3-YEAR EXTENSION. . . . Georgia-Pacific Alaska Co., subsidiary of Georgia-Pacific Corp. which received a preliminary award in 1955 for construction of a pulp mill at Juneau, was given a 3-year time extension by the U.S. Forest Service to comply with contract provisions for purchase of federal timber. Economic conditions caused the postponement.
- ESTABLISHES WEST COAST MANUFACTURING OPERATIONS. . . . West Virginia Pulp and Paper Co. has established multiwall and grocery bag manufacturing facilities at a new plant in Torrance, Calif., which started up July 1, making the new Clupak stretchable paper. This is the 70-year old firm's first plant west of the Rockies.
- COMPLETES MODERNIZATION PROGRAM. . . . Hennepin Paper Co., Little Falls, Minn., has installed a new Clark & Vicario Deculator air removal system, a battery of Bauer Centri cleaners, and completed a long range program which increased mill capacity by about 50%. This included rebuilding the Fourdrinier wet end, renovating the dryer section, rebuilding No. 1 calender stack, and installing a new Mason-Neilan moisture control unit.
- TEXAS PLANT DUE TO START UP. . . . A new plant scheduled for startup this summer at Orange, Tex., will substantially increase Crown Zellerbach Corp.'s polyethylene film production. The plant is adjacent to a Spencer Chemical Co. plant from which a special resin will be received for extruding into polyethylene film.

Other News

- NEW PILOT PLANT COATING LAB OPENS. . . . Arthur D. Little, Inc., Cambridge, Mass., started a new coating laboratory, primarily for development for clients, but with time available for custom experiments in coating. The coating head provides reverse roll, knife and wire-wound rod coating.
- TREE BARK YIELDS NEW ADHESIVE. . . . Rayonier's Olympic Research div., Shelton, Wash., developed a new silvichemical from western hemlock bark which yields a low-cost, weatherproof, thermosetting adhesive for plywood. The new product, HT-120, will also have applications in the oil well drilling industry.
- LOUISIANA LEADS SOUTH. . . Louisiana invested \$237 million during 1957 in new plants, partly for the growing paper industry, and more than any of the other 11 Southeastern states. Some \$161 million spent in the first three months of 1958 gives the Pelican state a good start on leading again this year.

Please turn page for more

check web-fed processing... your tension

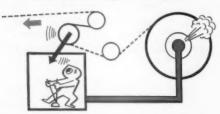
For continuous profitable production at lowest possible cost in web-fed processing . . .

d tension controls

If you want more profitable production from high speed winders, slitters or web-fed printing and processing machinery, first check your unwind web tension controls! No matter what material you work with, remember this...a relatively low investment in a dependable Cameron unwind tension control system will protect your profits by

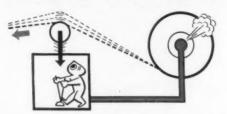
permitting higher, more productive operating speeds...by improving the quality of your finished product...and by minimizing loss through snapoffs. A fully automatic Cameron tension control system can be custom-fitted to meet the exact requirements of the material, the speed and the web-fed process with which you are concerned.

CAMERON 900



Extraordinary range and sensitivity assures instant correction of extreme parent roll irregularities. Versatile range of MODEL 900 provides constant tension on a wide variety of plastic films, foils and papers. In MODEL 900, the fully automatic brake pressure control mechanism is actuated by low-inertia, low-friction dancer roll which moves in a horizontal plane to provide slack take-up on the unwinding web. This system provides exceptional range for extreme correction problems.

CAMERON WEB-TROL*

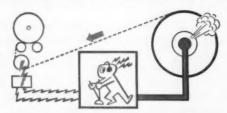


A highly accurate, fully automatic web tension control system which provides extremely fast correction for many types of roll-fed printing and processing equipment, as well as for slitters and roll winders. In WEB-TROL, the brake pressure control mechanism is actuated by a sensing roll which moves .010" in a vertical plane. Vertical travel of the sensing roll is governed by variations in down-pull on the unwinding web as it slackens or tightens, due to parent roll irregularities.

*patent pending

CAMERON CAMATROL*

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A low cost, dependable, fully automatic system for maintaining constant web tension control. CAMATROL can be applied to many types of roll processing machines. With CAMATROL, the brake pressure control mechanism is actuated by an electric impulse which is governed by variations in load on the rewinding drive as the unwinding web slackens or tightens.

patented

Three systems to choose from!

IT PAYS TO START your processing run with dependable control of the unwinding web. Reduce your costs, improve the quality of your finished product, and get more profitable production at higher speeds by starting with a Cameron custom-fitted web tension control system. Replace old, inadequate controls now, and see the difference! Ask Cameron specialists to tell you all about CAMATROL, WEB-TROL, and MODEL 900. Write, wire or phone today.

Cameron Machine Company, Franklin Road, Dover, N. J. Canada: Cameron Machine Co. of Canada, Ltd., 15 Hatt St., Dundas, Ontario France: Batignolles-Chatillon, 5 Rue De Monttessuy, Paris (7e) France

Built by Cameron's team of specialists

AA-356

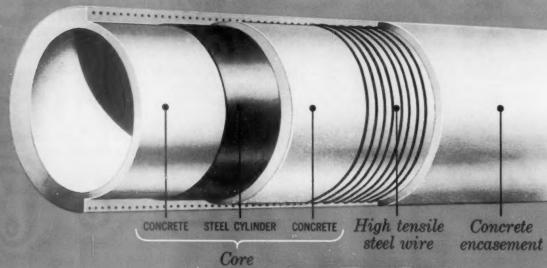
50 years devoted exclusively to the design and manufacture of slitting and roll winding equipment.

- WILL OFFER NEW DEGREE. . . . Western Michigan U., Kalamazoo, Mich., will offer the master of arts degree in chemistry beginning next Sept.
- PASS KLAMATH INDIAN BILL. . . . The U.S. Senate passed a bill permitting sale of Klamath Indian Reservation timber, near Klamath Falls, Ore. Iudustry gets first chance at buying some 3.5 billion bd. ft. of Ponderosa and lodgepole pine at a stipulated minimum price with agreement to manage the properties on sustained yield basis for 100 years. If not bought privately, the U.S. Forest Service will obtain it for \$90 million.
- <u>CALENDER STACK COATING INTRODUCED.</u> . . . System aims to help mills to get into coating and upgrade production without large investment. System is brainchild of Glidden Co's. alpha protein division, is said to be successful in applying coating at calender stack.
- SOUTH SWINGS TO WASTEWOOD CHIPS. . . . Some 300 wastewood chippers are now operating in the South at the rate of about 2,500 tons/week. Average installation is from \$60,000 to \$100,000. Big subject of interest: Chip quality.
- LARGEST SEEDLING PLANTING ever undertaken by private industry is claimed by East Texas Pulp & Paper Co. Ninety men and 36 planting machines planted 20,200,000 loblolly pine seedlings on 23,000 acres in eight Texas counties.
- I.P. AGREES TO INCREASES. . . . International Paper Co.'s Northern Div. and Southern Kraft Div. separately negotiated new agreements with unions for a general increase of 5 cents an hour in the north and graduated increases of 4 to 8 cents per hour (averaging slightly over 5 cents) in the south. In both cases, a third week of vacation after 10 years service was approved. . .
- FRANCE PAVES WAY FOR MORE PACKAGING. . . . A recent French law bans the wrapping of bread and other foods in newspapers.
- EXPANDS SOUTHERN OPERATIONS. . . . Potlatch Forests, Inc., Lewiston, Ida., purchased outstanding stock of Bradley Lumber Co. at Warren, Ark., for \$20 million. This gives PFI 208,000 additional acres of timberland, and lumber and hardwood flooring mills of 350,000 bd. ft. per day combined capacity in addition to Southern Lumber Co., also of Warren, which Potlatch acquired in 1956. Both properties are operated as divisions of PFI.
- UNOFFICIAL VOTE SHOWS 87% FAVOR WALKOUT. . . . This indicates a strike will develop in British Columbia's coastal forest industry as a result of operators' refusal to increase wages. Majority vote of a conciliation board inquiry was against any increase this year.
- RENEWS LICENSE APPLICATION. . . . Powell River Co. renewed its application for a forest management (tree farm) license covering lands it holds in the New Westminster, Sayward, Rupert and Queen Charlotte areas and other points along the British Columbia coast. If awarded, the license will be for 20 years with renewal option.
- PAPER INDUSTRY GAINS STATURE in Wisconsin as total manufacturing employment in the paper and allied products industries rose 21% since 1947. During the same period general manufacturing gained only 4.8% in Wisconsin.

PRESTRESSED CONCRETE CYLINDER PIPE

(Embedded Cylinder Type)

with Rubber Gasket Joint



All of the good qualities and characteristics desired by water works engineers for permanent water supply and transmission lines are embodied in this prestressed pipe of advanced design: great strength, sustained high carrying capacity, trouble-free service, and unusually long life. Prestressed pipe of this type can be designed more accurately, predictably and economically for most all conditions of internal pressure and external loads than any other type of high quality concrete pressure pipe. It is the finest quality pipe available in medium and large diameters for pressures generally ranging from 100 psi upward. American is currently undertaking the manufacture of this pipe designed for pressures ranging from 275 to 550 ft. of head for a portion of the U.S. Bureau of Reclamation Project being constructed for the Ventura River Municipal Water District. This Ventura River Project will serve 32 square miles of mountainous country with water for irrigation, municipal and industrial use in main and coastal reaches of Ventura County, California. When planning your future water "growth lines," look to American's quality pipe line products, extensive production facilities and half century of experience.



Prestressing machine wraps high tensile steel wire under carefully measured tension around pipe core.



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PHOENIX: 2025 South 7th St.—ALpine 2-1413

PORTLAND: 518 N. E. Columbia Blvd. - BUtler 5-2531



CONCRETE PIPE FOR MAIN WATER SUPPLY LINES, STORM AND SANITARY SEWERS, SUBAQUEOUS LINES

WORLD PULP & PAPER

General News

Back from Russia

London . . . C. W. "Bill" Converse, joint managing director of Black-Clawson International Ltd., Black-Clawson House, 18 Savile Row, London, returned recently from a five weeks trip in Russia.

Millspaugh Chief in America

New York . . . Recently on tour of U.S.A. and Canada was Richard E. Heys, managing director, Millspaugh Ltd., papermaking machinery manufacturers of England. He visited Millspaugh's Canadian operations and some mills in North America.

World Demand Rises

Washington, D. C. . . . The world newsprint production potential exceeded demand in 1957 by an estimated 683,000 tons, says a U.S. government report. It adds that by 1960 the surplus should be about 1.7 million tons, as demand then is estimated at 15.1 million tons and potential production at 16.8 million tons, a rise of 3.2 million tons over 1956 production.

Netherlands Packaging Show

Amsterdam . . . EUROPAK 1959, the 5th Netherlands Packaging Exhibition, will be held at the RAI Exhibition Halls in Amsterdam on Apr. 21-28, 1959. Newest packaging machines and materials from all over the world will be shown and lectures given on current problems in pre-packaging perishable foodstuffs.

Norwegian Mill Cuts Output

Oslo . . . A/S Union is reducing production of newsprint by 30 to 25 per cent this year, compared with 1957. A small machine at Union Bruk, Skien, will be shut down completely and the Skotfos Bruk mill will operate on a 24-hr. schedule.

New West German Company

Duesseldorf . . . Feldmühle Papierund-Zellstoffwerke AG, a major paper and pulp producer in West Germany, formed a new company, Continentale Gesellschaft fur Papierinteressen (Continental Society for Paper Interests) with capital of DM 1,000,000 (U.S. \$238,100). The new company will produce and sell paper and board and will establish foreign branches, mainly in other Common Market countries.

Finnish Output Steady

Helsinki . . . Production in Finland for the first three months of 1958 showed no appreciable decline from the same period in '57, and some categories were up. Even though production has not reached full capacity, the industry is still growing. The Tervasaari mill of United Paper Mills Ltd. upped its annual capacity from 49,500 to 88,000 short tons of kraft paper by remodeling machines. Vietsiluoto Oy, owned by the Government, plans to expand pulp production from about 110,000 tons annually to 440,000 tons, and to build a new paper mill.

EUCEPA in West Germany

Darmstadt . . . Some 350 representatives from 14 countries attended the first symposium held by EUCEPA (Comité Européen de Liaison pour la Cellulose et le Papier) at Darmstadt in May, on "Current Problems in Cellulose Analysis." Professor Dr.-Ing. Georg Jayme of the Institute of Cellulose Chemistry in Darmstadt was praised for his excellent organization of the conference. The Cellulose Institute and two other Institutes in Darmstadt, of Paper Making and of Printing, do important research on industry problems, as well as train students in a wide range of subjects.

Scientists in East Germany

Weimar . . . Scientists and paper technologists from many European countries attended the 4th Scientific and Technical Congress of the Cellulose, Paper, Paper Processing and Printing Industries of the German Democratic Republic (East Germany) at Weimar on Apr. 15-17. Papers were presented by representatives from Russia, East and West Germany, Poland, Hungary and England.

Venezuela is Best Customer

Caracas... Venezuela is now buying more from the U.S.A. than any other Latin American country, purchases of goods and services totaling \$1,500,000,000 in 1957. This was the first year it became the best Latin American customer. Pulp and paper, along

with machinery, vehicles, metals, chemicals, etc., are listed among principal commodities bought from U.S.A.

Demand Outside U. S. Rises

New York . . . Demand for paper and paper products is rising in Europe and other areas much faster than in the United States. This will be a message in a book being prepared by Newsprint Information Committee, New York, authored by Dr. Charles W. Boyce, veteran writer on paper industry affairs.

Dr. Boyce, just back from Indonesia, said all the original Indonesian forest has been cut off. Pulpwood will have to be grown on plantations and processed by electric power supplied by diesel generators. Conditions are favorable for kraft mills, he said.

Bolton-Emerson In Sweden

Lawrence, Mass. . . . Appointment of Grubbens & Co., Aktiebolag, Stockholm, as sole distributors in Sweden for John W. Bolton & Sons, Inc., and The Emerson Mfg. Co., Division, of Lawrence, Mass., has been announced by Haigh M. Reiniger, vice president in charge of sales. Grubbens & Co. was established in 1892 and has branches in Gothenburg, Malmo and Norrkoping.



PAPER MILL SCREENS HOP ENG-LISH CHANNEL—To satisfy the urgent need of a Dutch paper mill for four Selectifier screens, Black-Clawson International, London, overcame the problem of slow water transport by chartering a special air freighter to fly the load to Amsterdam. Screens are shown being loaded at London Airport after being brought by truck from the BCI machinery works in Newport, Monmouthshire.





LIGHT-WEIGHT LAP JOINT STUB ENDS

Now you can eliminate time consuming and expensive, hand-cut, lightweight stub ends that make welding inspection difficult.

ESCO Lightweight Stub Ends are designed to keep operational unit stresses low throughout the stub end, particularly at the critical area where the pipe joins the stub.

Made for use with 10-14 gauge fabricated pipe, these lightweight stub ends make inspection easy because the flange does not hide the weld.

Cast in nominal tubing sizes from 2" through 20" and IPS sizes 2" through 24" in ESCO Alloy 45S (Type 316), these lightweight stub ends are conveniently warehoused in sufficient quantities for immediate delivery.

See your ESCO dealer. Ask for ESCO Catalog No. 156 containing dimensional data.





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Record Business at Drupa

Düsseldorf . . . DRUPA—the greatest sales fair of the Graphic Arts Industries, after running for 14 days, came to an end May 16. This largest market in the field of graphic arts attracted 388,000 visitors from 48 nations, and 80,000 came from abroad. This was a 15% increase in foreign attendance compared with the 1954 event. On an area of 72,000 square meters, 688 exhibitors, including 190 from 14 foreign countries, presented a display unsurpassed in its extent and detail of printing presses and machines, machinery for paper and board making, equipment for reproduction and screen process equipment, printing inks, paper, paper-board, etc. Hopes for business success were high, but were exceeded by actual orders booked.

World's Biggest Flagpole

London . . . The biggest flagpole in the world recently made a trip down the Thames River to London's famed Kew Gardens. A Centennial gift from the British Columbia coast forest industries, the Douglas fir log-225 ft. long from a magnificent tree 275 ft. tall-came from a stand in MacMillan & Bloedel's Copper Canyon Camp on Vancouver Island, Cambridge. The fiagpole log was selected, rigged, yarded out, loaded and trucked by a Copper Canyon crew under logging superintendent Ed McLean and woods foreman J. M. "Nit" Clarke.

Bolton Reps. in Far East

Tokyo-C. Itoh & Co. will be sales representatives in Japan and East Asia for John W. Bolton & Sons, Inc. and its Emerson Manufacturing Co., Division, Lawrence, Mass., U.S.A. One of the largest machinery importers in Japan, C. Itoh & Co. has branch offices throughout the world.

WORLD

Technical News

Presented with permission of The Institute of Paper Chemistry, under super-vision of Curtis L. Brown, editor of IPC Bulletin. Photostats or translations of original reports available at reasonable cost by writing Eugene Bunker, librarian, Institute of Paper Chemistry, PO Box 498, Appleton, Wis.

In Norway, Pressed Board Tests Kumar, V. B., and Johansen, O. Leander. Norsk Skogind. 12, no. 2: 47-54 (Feb., 1958). [In English; Norwegian summary] Bull. Inst. Paper Chem. 28:1278.

Variations in some physical and mechanical properties (such as thickness, density, bending strength, and Brinell hardness) of pressed fiberboards about 6.50 mm. thick and having a density of about 0.95 g./cm. are discussed. These variations were found to be highest in boards pressed in the uppermost daylight (platen) opening, whereas boards from the central and lower daylight openings were more uniform. Although board thickness was linearly related to board density, bending strength and density showed only an approximately linear relationship with wide scatter. Correlations between hardness and density or bending strength were poor. C.L.B.

Peroxide Bleaching in Germany

BERNDT, W. Allgem. Papier-Rundschau no. 12: 633-6 (June 20, 1957). [In German] Bull. Inst. Paper Chem. 28: 1071.

The limited use of mechanical pulp (I) in papermaking is due chiefly to its low whiteness (60-65%) and strength characteristics. The latter may be improved by the addition of chemical pulp, but bleaching of (1) is the only means to increase its whiteness. The use of chlorine is excluded for a material containing lignin. The use of peroxide bleaches can, however, suppress the red color components so that the pulp appears whiter. (I) contributes more to the whiteness of the finished paper than in proportion to its weight. Various methods of peroxide bleaching are described. Their principle is the same and involves the preparation of the bleaching solution (aqueous sodium peroxide stabilized with sodium silicate), its intimate mixing with the pulp, a definite reaction time, and acidification to evolve peroxide as the active bleaching agent. Essential factors for successful bleaching are concentration of peroxide, the amount of stabilizing agent (to protect against the action of metallic catalysts), and the pH, temperature, and time of bleaching. J.S.

Ester Group in Japanese Woods

NAKANO, JUNZO, ISHIZU, ATSUSHI, and Місіта, Nовиніко. J. Japan Wood Research Soc. 4, no. 1: 1-4 (Feb., 1958). [In Japanese; English summary] Bull. Inst. Paper Chem. 28: 1293-4.

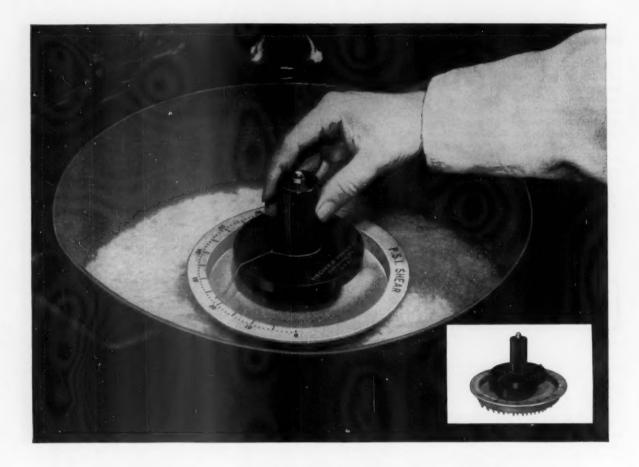
Four softwoods [spruce, red pine, larch, and "sugi" (Cryptomeria japonica)] nine hardwoods (poplar, alder, birch, beech, oak, maple, lime, eucalyptus, and Kalopanax pictum), and six tropical hardwoods [arai (Miliusa velutina), sepetir (Sindora coriacea), three Shorea species (red and white seraya and Selegan kacha), and binuang (Octomeles sumatrana)] were refluxed with N sodium hydroxide solution. The extracts were analyzed by paper chromatography and ultraviolet absorption and showed presence of phydroxybenzoic, vanillic, syringic, pcoumaric, and ferulic acids. Although the ultraviolet spectra of most alkaline extracts were similar to that of alkalitreated Brauns native lignin, the extracts of aspen and sepetir woods, which have exceptionally high estergroup contents, gave different absorption spectra. Aspenwood was particularly high in p-hydroxybenzoate groups. A small amount of p-hydroxybenzoic acid was obtained from the heartwood but not from sapwood of larch, indicating that ester groups are not uniformly distributed throughout the trunk cross section. C.L.B.

German Air Permeability Tests

TOLLENAAR, D., and ROYEN, A. H. H. van. Das Papier 11, no. 23/24: 562-6 (Dec., 1957). [In German; English and French summaries] Bull. Inst.

Paper Chem. 28: 988.

A theoretical study, confirmed by experimental data, indicates that airpermeability values obtained with the Bekk apparatus can be derived from those measured with the Schopper tester, and vice versa, the product of the two measurements having the theoretical value 1550. Repeated measurements in the Bekk instrument, carried out on the same area of the paper sample, change the permeability. Except for highly impermeable papers, the use of the Schopper tester is hence preferred. C.L.B.



NOW...A NEW PARAMETER FOR PREDICTING PIPE FRICTION LOSSES

Now a shear tester resulting from eight years of work by the TAPPI Hydraulics Committee is available to the entire pulp and paper industry from Fischer & Porter. With the new tester you can easily measure yield stress (s) . . . then use it to determine $\rho V^2/s^*$ and $\Delta P/s^*$. These new correlation parameters promise to play the same role in stock hydraulics as the Reynolds number plays in true fluid flow work.

In use, the tester is carefully placed on the surface of a stock sample, and the handle is slowly rotated. Torque transmitted through a spring causes the dish to rotate causing elastic deformation of the stock. Continued advances of the handle increase the scale reading until the

yield stress value of the stock is reached. This value may be read directly from the tester scale. Further advance causes a drop in the reading as the stock "fails" in shear.

The F&P Shear Tester is the same design which proved so necessary to the success of TAPPI pipe friction studies under grants 61 and 91. The price is just \$89.50 net each, and complete instructions are furnished with every unit. The tester is stocked at Hatboro, Toronto, Chicago, Houston, and Los Angeles for immediate delivery. See your F&P field engineer or order direct. Fischer & Porter Company, 2188 County Line Road, Hatboro, Pa. In Canada, write Fischer & Porter(Canada) Ltd., 2700 Jane St., Toronto, Ont.

*p = density; V = velocity; s = yield stress; ΔP = pressure change



FISCHER & PORTER CO.

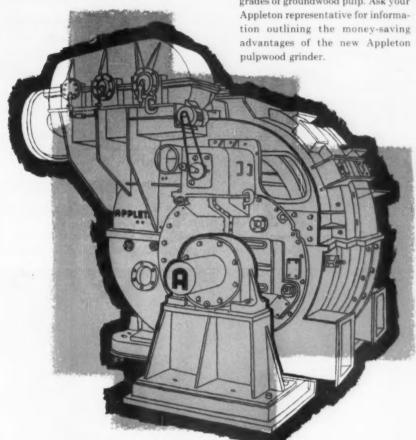
Complete Process Instrumentation



adaptable for completely automatic log-handling

NEW APPLETON RING-TYPE GRINDER

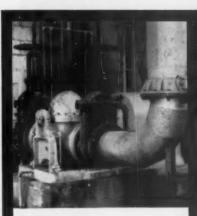
Appleton's outstanding pulpwood grinder has now been redesigned with more horsepower, more capacity, greater speed than ever before. This heavy-duty grinder increases log room efficiency and production . . . gives greater capacity per horsepower and can be adapted to automatic wood feeding . . . cuts operating labor costs on all grades of groundwood pulp. Ask your Appleton representative for information outlining the money-saving advantages of the new Appleton pulpwood grinder.



APPLETON MACHINE COMPANY

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GOULDS FIG. 3405, double-suction centrifugal handling 4,000 GPM white water against 100 ft. head to screen showers.



GOULDS FIG. 3405, double-suction centrifugal pump handling 2,000 GPM strong black liquor from foam tank to storage.



TWO GOULDS FIG. 3405, double-suction centrifugals at left are rated for 800 GPM against 240 ft, head for fresh water shower and for saving and the saving left. and for squirt and trim knock-off service.



GOULDS FIG. 3450, double-suction co trifugals on mill water supply. All are rated for 9,000 GPM against 100 ft. head.

See how this mill uses Goulds pumps to solve every pumping problem

At this large pulp and paper mill* in the south, Goulds pumps are performing every kind of pumping job: mill water, liquors, white water, stock up to $4\frac{1}{2}\%$ and others.

Such a broad application of the Goulds line means you can find the right Goulds pump for every purpose when preparing stock, bleaching, and making paper.

To get information on the pump that's "right" for your job, get in touch with your Goulds representative*, or write to Goulds Pumps, Inc., Main Office and Works, Dept. PP-88, Seneca Falls, N.Y. *name furnished upon request

GOULDS PUMPS, INC.

Main Office and Works Dept. PP-88, Seneca Falls, N.Y.

GOULDS

PUMPS FOR THE PULP AND PAPER INDUSTRY



GOULDS FIG. 3450, double-suction cen-trifugal pump handling 7,000 GPM weak bleach liquor to washer. In background are three Goulds liquor pumps.

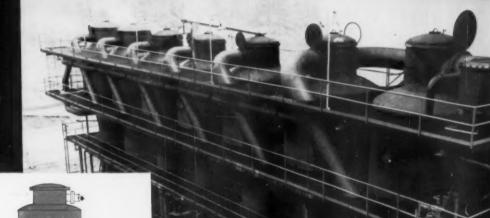


GOULDS FIG. 3405, double-suction cen-trifugals pumping white water. Pump illus-trated is pumping 4,000 GPM to line type consist regulators.



TWO GOULDS FIG. 3105, stock pumps handling 585 gallons per minute of one per cent stock from centri-cleaners.

ROSENBLAD EVAPORATORS AT GEORGIA PACIFIC'S NEW KRAFT MILL





Condensate and excess vapor-carrying non-condensable gases from effect (above) are separated in condensate remover (1). Vapor and non-condensables flow through the Spiral Heat Exchanger (2) where black liquor (3) to the same effect is pre-heated. The cooled condensate is drained to the combined condensate line (4). The non-condensable gases are sub-cooled and vented through line (5).

Rosenblad black liquor evaporators, with their effective venting-preheating system, have these important advantages: high heat transfer because of the efficient preheater design...and long, trouble-free life because of the quantity of vapor that is vented.

These advantages are made possible by the Rosenblad Spiral Heat Exchanger, whose exclusive design (two wrapped-up plates) eliminates plugging, maintains high efficiency, and provides optimum heat recovery. Over 50 world-wide installations attest the advantages of Rosenblad evaporators in operating economy and increasing plant capacity. Write for full information.

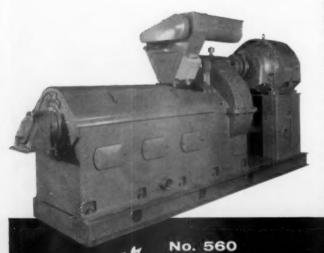
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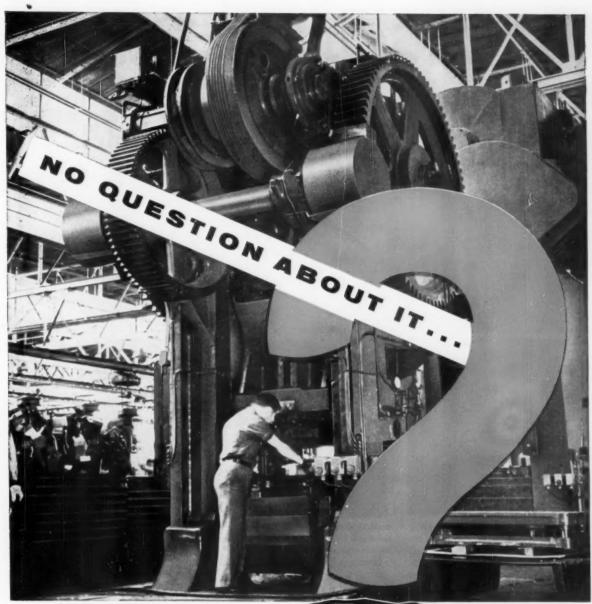
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QUALITY CONTROL is rigidly maintained from raw material and through all phases of manufacture to finished product.



SONOCO Durolene paper mill cores deliver superperformance; are unequalled in torque strength, have ultra-high crushing strength and possess greater scuff resistance. Here are four reasons for

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Paper Mill Cores

SONOCO PRODUCTS COMPANY

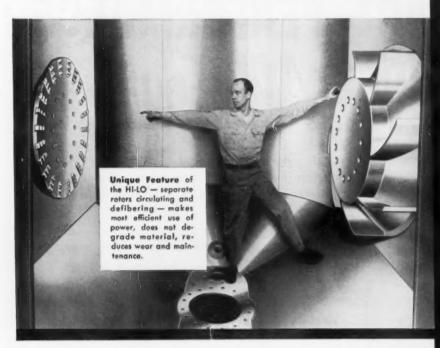
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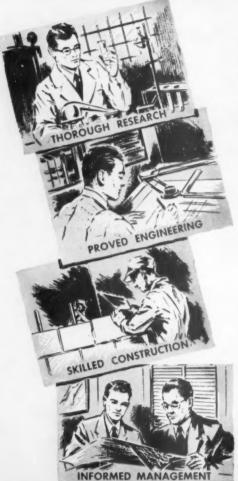
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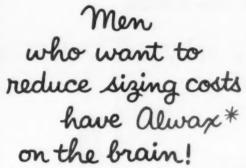
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AMERICAN CYANAMID COMPANY PAPER CHEMICALS DEPARTMENT

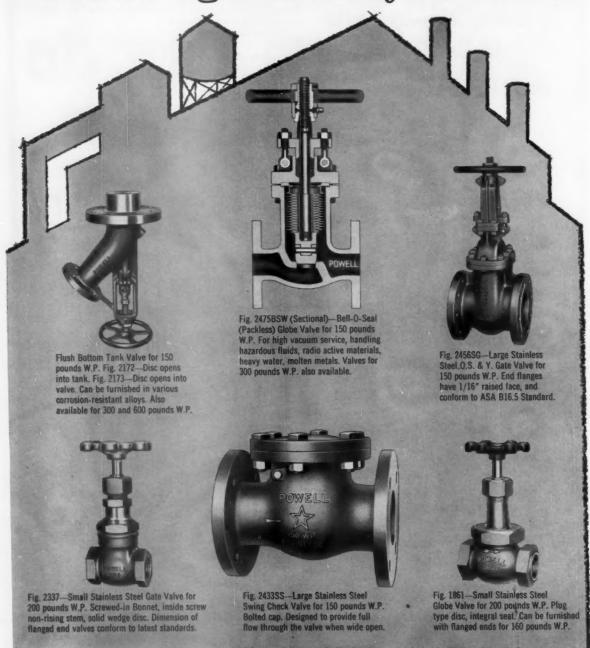
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You can "make down" these dependable clays with lower power input than other clays demand. Or—you can process them at considerably higher solids content with the same power input.

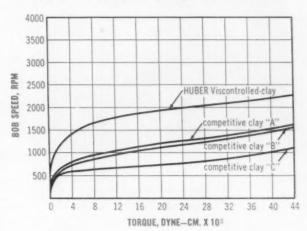
These facts have been proved, using the Hagan High Shear Viscometer and particularly in actual plant operation. The rheograms shown below illustrate the low viscosity of Huber Viscontrolled-clay compared to competitive grades.

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LIQUID LEVEL TRANSMITTERS



Mr. Brian Shera, left, manager of Technical Service, Pennsalt of Washington Division, and Mr. Walter E. Erickson, bleaching plant operator, examine pulp samples from bleached pulp decker at Scott Paper Company, Everett, Washington.

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Now, these limitations are completely removed. For Kymene 557 is an entirely new type of resin. It contains no urea, no melamine, no formaldehyde. Thus, it will develop its effective wetstrength throughout the entire range of conditions encountered in papermaking. And, it is also a good retention aid for Aquapel® ketene-dimer alkaline sizes.

Kymene 557 is available in drum or tank car quantities from our Savannah, Holyoke, Milwaukee and Portland, Oregon, plants. One trial will show you what you can expect from this new wet-strength resin, under any mill conditions you select. Contact your nearest Hercules PMC representative for more specific details.



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For a stock pump designed for lowest overall maintenance costs and quick, easy repairs, investigate the new 1958 "Buffalo" Class DS and DSH Stock Pumps. Contact your nearby "Buffalo" engineering representative, or write for Bulletin 4080.



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The seven digesters were fabricated from 1½-inch and 1½-inch plate ASTM A. 212 B.F.B. with special chemical analysis on copper, carbon and silicon.



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*pro-duc'tion-eer' (pro-duk'shun-ir'), n. 1. One who works for, or in the interest of, more efficient and economical production, increased production, etc. 2. One who contributes to the production of goods of economic value.



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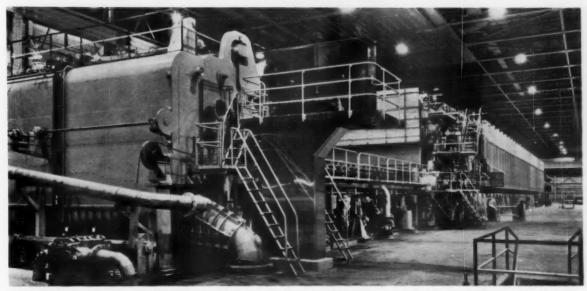
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World's Biggest Machine Backed by New Process



JUSTIFIED BY SUCCESSFUL ADAPTATION of Madison, Wis., lab's cold caustic pulping process, in successful use at Coosa River Newsprint Co., is this 343 in. wide machine by Beloit Iron Works, which broke in at speeds of 2500 fpm. It actually started up in May at 1700 fpm. It is rated to make 400 tons a day, was part of a \$35,000,000 expansion.

But Government is Asked to Build Another Mill to Prove It!

-Washington, D.C.

• Despite the fact that a privatelyowned mill is already successfully
doing it, on a commercial scale, efforts
will persist to have the U.S. Government spend millions on a mill to prove
"a new method" of making newsprint
from low grade hardwoods (cold caustic soda process).

As this is published the 85th Congress's second session will have ended, or be close to adjournment, but PULP & PAPER learned from close observers that there will be no let-up in the campaign to put across the government pulp and paper mill.

It is considered a certainty that Sen. William Proxmire, of Wisconsin, will again introduce his bill in the next session to spend an initial five million dollars on "a pilot plant experimental newsprint mill in Wisconsin by means of financial assistance through the



SEN. PROXMIRE AND CAMPAIGN MANAGER (Mrs. Proxmire) Washington expects him to revive his scheme to invest government millions in a newsprint mill in Wisconsin, where paper industry many years ago decided newsprint was not an economic product.

Small Business Administration."

Although the present over-supply of newsprint has been widely publicized, Sen. Proxmire says there is a "shortage." And he has repeatedly argued that his scheme is necessary "because otherwise it might take many years to apply a new U.S. Forest Products Laboratory (cold caustic soda) process to make newsprint from low grade hardwoods to commercial operations."

Coosa Uses Hardwoods, Bagasse

A Wisconsin company, Kimberly-Clark Corp., as operators and part owners of Coosa River Newsprint Co., Coosa Pines, Ala., already has put this exact process into successful operation in Alabama. Bauer Bros. Co. has aided in its development. On these pages are illustrations of the world's largest paper machine at Coosa River, built and installed as a result of successful adaptation of the process, and of the actual pulp plant where the new process developed at the U.S. Forest Products Lab is working. These installations and others in this project represent an investment of \$35,-000,000.

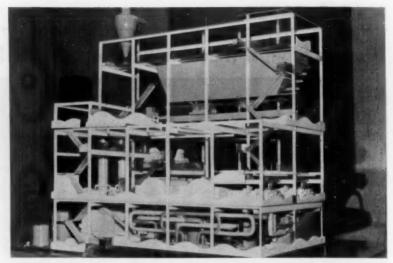
President Arthur Wakeman has invited Sen. Proxmire to Coosa Pines, Ala., to see the cold caustic process. "The information is free for the asking and the process will work on Wisconsin hardwoods as well as any other hardwoods," said Mr. Wakeman.

Despite these facts, the U.S. Senate approved \$20,000 for a "preliminary study" of Sen. Proxmire's scheme. And even though this session took no action on his bill, S. 3372, nor on a similar bill introduced in the House by Rep. John Bennett, of the Ontanagon area in Michigan, which calls for a government-financed newsprint mill in that state, observers here in Washington say the proposals will undoubtedly be presented again at the next session.

Another reason advanced for the government financed newsprint "pilot" mills in Wisconsin and Michigan is that they would utilize local hardwoods and furnish job opportunities.

A Reply from Wisconsinite

Rep. William K. Van Pelt of Wisconsin answered this by pointing out that the industry in the Lake States has long since turned away from newsprint and is making more profitable grades of pulp and paper—using these hardwoods—because of competitive costs. Also, he noted that the U.S. Dept. of Commerce forecasts the supply of newsprint will exceed demand by "a growing margin" through 1959. He said the Northern states cannot compete with Canada and the South in newsprint and "a government subsidy never was needed to encourage



ATTENTION: SEN. PROXMIRE AND REP. BENNETT: Here's a model of plant you want the government to build, in order to prove it works. This is already working at Coosa River Newsprint Co. It is a 3-story plant for cold caustic soda pulping of hardwoods. Vertical digesters (in back) and washers are on second floor and big chip bin on top, as can be seen.

any new enterprise which was economically feasible."

Obviously the bill sponsors knew that advocating newsprint, instead of other grades, would assure them of maximum publicity, if not support from many newspapers of the country.

Rep. Van Pelt called the chemigroundwood process developed under sponsorship of Syracuse University's paper school, and commercially used by Great Northern Paper Co. in Maine, as "commercially the furtherest advanced of newer hardwood pulping technologies for making newsprint."

If it is practical to build a newsprint mill in northern Michigan, as proposed by Rep. Bennett of that state, Rep. Van Pelt said "wouldn't Abitibi Power & Paper Co., one of the largest and most experienced newsprint producers in the world, have jumped at the opportunity." Instead, Abitibi has just built a hardboard plant at Alpena, Mich.

Mr. Wakeman Writes Letter

Mr. Wakeman pointed out the flaws in the Proxmire bill in this letter to his senator, John S. Sparkman, of Alabama:

—Coosa Pines, Ala.

"Sir: From a study of this bill and the statement in the Congressional Record it appears that the author knows nothing about what is going on in your own State and the rest of the country with respect to the use of hardwoods for newsprint.

"The last time you were over at our plant you will remember we told you about the types of woods we were MR. WAKEMAN invites Sen. Proxmire to come to Alabama and see for himself.



using and how we were using our process for making newsprint out of hardwoods. Well, the astounding fact is that this process was developed right in Sen. Proxmire's own state. It was all done in a government-sponsored experimental pulp and paper mill operated by the Agriculture Department under the jurisdiction of the Forest Products Laboratory at Madison, Wis. The work was done by Dr. G. H. Chidester who is in charge of the pulp and paper section of this government laboratory. This is a fine plant and equipment. In fact, it is about the best equipped experimental research laboratory in the world, costing many mil-

"Now you could show Sen. Proxmire a newsprint mill right here at Coosa Pines that uses hardwood and was based on work done by government laboratory. The information is free for the asking and the process will work on Wisconsin hardwoods as well as on any other hardwoods. The millions the senator is asking for have already been spent and were put up by private capital. In fact, this hardwood newsprint plant was put up by none other than 128 publishers who own the place you have seen.

"Sen. Proxmire says that the Congress has found a shortage of newsprint. We can supply a trainload of newsprint anytime anyone wants it. There is no shortage today.

Senator Deplores Newsprint Price

"Mr. Proxmire states that the price increases of newsprint paper tend to impose a serious handicap upon the development and maintenance of a vigorous and free press in this nation, particularly in respect to small publishing enterprises.

"The price of newsprint has not advanced as fast and as high as other grades of paper. As far as the small publishing enterprises are concerned, we have paper available from our mill for them and have had for 9 years, ever since we started up.

"As I have told you before, this tonnage was set aside by the 128 newspapers who own this mill and it was for the use of hardship cases. We have helped out every case that has been called to our attention for 9 years now and will continue to do as we have in the past.

"There are so many misstatements in bill S. 3372 regarding the amount of hardwood available, that I wish the committee would go to the proper authorities in the government and get their facts straightened out.

"It may be of passing interest to know that we have also run on high-speed machine at Coosa, newsprint made from bagasse. You probably know and might tell Sen. Proxmire that the government will give him a book showing how to make paper out of cornstalks, Florida saw grass, bamboo, and over 800 other different kinds of things grown in the United States of America.

"Some day we will be using some of these things and our Government has not been lax in looking into this sort of thing.

"You may be interested also to know that the subject of genetics of the various hardwoods is getting a lot of attention and some very interesting things are being developed. This work also is being done in Wisconsin at the Institute of Paper Chemistry at Appleton in cooperation with the State and Federal Governments. This research work is sponsored by the Institute of Paper Chemistry which is a multimillon dollar institution. Nevertheless, the work is made public and can be used in Alabama or any other State.

Very truly yours,
A. G. Wakeman,
President
Coosa River Newsprint Co."



Peterson Chidester

A WELL-DESERVED AWARD . . . Asst. Secy. of Agriculture E. L. Peterson presents distinguished service award to Dr. Gardner H. Chidester, chief of Pulp and Paper Division of U.S. Forest Products Laboratory, for advancing use of hardwoods in semi-chemical processes for pulp and paper. Mr. Wakeman, president of Coosa River, gave Dr. Chidester full credit for development of the new caustic soda process and says the Madison lab is one of world's finest.

Gottesman Foundation Gift

Western Michigan University's department of paper technology has received a gift of \$10,000.00 from the D. S. and R. H. Gottesman Foundation, to equip a room in the Paper Industry Laboratories. A bronze plaque has been installed which reads "This room is dedicated to the memory of D. Samuel Gottesman, a pioneer in the pulp and paper industry."

Potlach Now Set For Arkansas Pulp and Paper Mill

Potlatch Forests, Inc., announces tentative plans to develop Arkansas holdings by the future installation of pulp and paper mill operations there. The decision came with an announcement that the company has completed a reported \$20,000,000 purchase of Bradley Lumber Co. of Warren, Ark. The transactions were on a cash basis with bank financing.

Robert E. Bundy, president and general manager of PFI, said "the Bradley lands are well blocked with our Southern Lumber Co. holdings and the lumber manufacturing plants can be operated together with increased efficiency." Southern Lumber Co., Warren, Ark., was merged with PFI

in Nov., 1956.
"The most important consideration, however, is that the two Arkansas properties, aggregating 346,000 acres, will provide raw material for a pulp and paper operation in Arkansas," said Mr. Bundy. "Our plans for orderly future development of the

company indicate the need for such a mill."

The Bradley holdings, the company said, consist of 208,000 acres, including highly-rated pine lands, a hardwood and a pine sawmill, a flooring plant and a furniture parts operation.

With Bradley, PFI holdings will total nearly 1,000,000 acres.

PFI divisions are located at Pomona, Calif.; Chamblee, Ga.; Chester, Pa.; Chicago; Ft. Worth, Texas; Oswego, N. Y.; Sikeston, Mo.; Warren, Ark.; Deer Park, Wash.; Coeur d'Alene; Clearwater; Kamiah; Potlatch; and Lewiston, Ida.

City Uses Mill's Dryer Canvas

Novel use for machine clothing: Crown Z came to the rescue with used dryer canvas, to be spread over steel grill roadway of Portland, Ore.'s new Morrison bridge and cover a Rose Queen's barge. The occasion was the Rose Festival parade. The bridge covering made horses willing to cross and kept high-heeled shoes of girl marchers from dropping through.

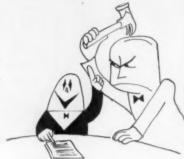
Starts Building Chip "Hills" For New Paper Mill

Cascade Kraft Co. is setting in a supply of pulp chips at its Wallula, Wash. plantsite in preparation for completion of the mill early next year. A newly completed Rader Pneumatics chip-handling system started blowing by-product chips from transport trucks to the open mill storage July 3rd.

How to Wreck a Mill Conference



Don't listen to others; they will only confuse you. Use the time while they're talking to think up your next remarks.



Squelch any new approach not outlined on the agenda.



Don't snub any friends who may telephone during the meeting. Have your secretary put every call right through.



Let Sam and Joe debate their personal differences for the length of the meeting, thus providing good clean entertainment for all.



Or, insist that Sam and Joe are really in agreement, and prove it by misquoting both of them. This will unite them in an attack on you.



Change the decisions reached at the meeting—but don't let the others know. (It might hurt their feelings.)

Cartoons Tell One Side of Story . . .

When the authors of the article on this page made a talk on the subject of conference techniques at the American Pulpwood Assn. meeting in Shreveport, La., recently, they showed these cartoons—and many others—to their audience. These were provided by the American Management Assn., courtesy of Lydia Strong and Al Hormel of that organization.

How to Make a

By JESSE ROGERS

Asst. Chief, Management Planning and FRANK SCHWAB, JR., Management Planning Engineer Champion Paper & Fibre Co. Pasadena, Texas

• The main purpose of this article is to examine one of management's more important communication tools—the conference.

Based upon our combined experience, in addition to considerable research, it is our belief that a properly conducted conference is the most efficient method devised for personal communication. Studies have indicated that typical upper-middle and top management personnel spend up to 40% of their time engaged in communication of ideas. The majority of this exchange takes place in the conference room. Since so much management time is spent in meetings, the subject of successful conference techniques is assuming ever increasing importance.

This article is restricted to a discussion of smaller conferences in which the chief objectives are problem solving, decision making, decision selling, and informational giving.

Why Define Conference Purpose?

These benefits will be gained from attempting to properly define the different types of meetings: 1. After the purpose has been decided upon, the leader will be able to more effectively plan and conduct his meeting.

2. After participants have been informed of the meeting's objectives they will be in a better position to know what is expected of them.

3. When participants realize the purpose they will be less likely to feel frustrated, if the conference does not end in a clear-cut decision.

There are three major categories of these conferences: first, and perhaps most important, is the problem solving conference; second, a decision selling conference; and third, the informational conference. The problem solving conference is divided into two major categories—1, decision making, and 2, decision exploration.

Decision-Making Conference

In the discussion the leader tries to guide the group towards reaching an agreement or a suitable conclusion. A typical example would be a discussion of any management problem in which the participants' organizational

Conference Succeed

status and varied backgrounds make them capable of arriving at a sound decision.

It is vital that the chairman be a good discussion leader. His chief task will be to ask pertinent questions, enabling participants to make the best contributions possible. The chairman will try and have the participants evaluate, analyze, and refine the best ideas so that the group can ultimately use these as the base for its conclu-

This type of meeting demands considerable skill on the part of the leader who must, through adroit questioning, get participants to pool their experience with relation to the problem. He must have full knowledge of the diverse personalities who make up the meeting, complete awareness of their likes and dislikes and some insight into the internal political picture. Possessing this information he can pose questions in such a way as to achieve maximum interest, participation, and creativeness while minimizing conflicts and horedom.

Decision-Exploration Conference

In this meeting, the chairman attempts to draw out the group's ideas and opinions so that they can serve as pertinent material for a decision which will be made at a higher level.

The leader would exercise slightly less guidance in the explorational meeting, and there would be less of a tendency to pursue the few obvious alternatives to a decision. Since the prime aim of this meeting is to gather all the pertinent information, the leader is obliged to let all possible sources of information be heard so no relevant factors will be overlooked.

The leader must make the nature of the conference clear. If he does not clearly explain the purpose, members will leave the room in a dissatisfied frame of mind with probably one thought paramount—"that sure was a waste of time." The leader should thank participants for contributing to the eventual decision.

Decision-Selling Conference

In this conference, the leader will experience greatest difficulty achieving satisfactory results. Its chief purpose is to secure group acceptance of a decision already made. The main theory behind this conference is that the advantages of participation far out-weigh the disadvantages of spending considerable management time to direct these meetings. A poor decision enthusiastically and efficiently executed will probably be superior to a good decision carried out in haphazard and lackadaisical fashion.

The chairman should be willing to spend a considerable time on this type conference. For, if participants do not walk out with a feeling of sharing in the decision, it has been a failure. He should attempt to draw out the pertinent ideas and suggestions germane to the decision already made, but he should not do this in a manner which might suggest "railroading" something through.

Informational Conference

This meeting and the leader's operational practices are substantially different from the others. Primary purpose is for the leader to pass on selected bits of information to the group.

Since the leader does most, if not all the talking, the skills necessary for success are similar to those of a skillful lecturer or good teacher. The chairman must have a complete grasp of the material under consideration. This can only be by thorough preparation. Since the participants' background is not always related to the subject matter, it is vital, in order to hold attention, that the presentation be clear and concise. Complete understanding of the subject matter by participants should result.

Assign an Observer

Let us next consider one further technique which should assist us in arriving at better and more successful conferences. This consists of assigning an observer role, on a rotating basis, to each participant. If the observer behaves and acts in truly impartial manner he will quickly ascertain the major flaws of the meeting. By evaluating actions of both leader and participants, he will probably develop an entirely new perspective which should prove invaluable when he becomes either participant or leader.

Meetings Can Be Liabilities

We have arbitrarily broken meetings into three main divisions-problem solving-decision selling and informational. However, the manner of classification is unimportant, what is important is that we recognize these differences, even when they occur in the same meeting so that either as discussion leader or participant we will do a better job.

Finally, in addition to possessing the requisite knowledge and skill, the leader must also have the right attitude. If he employs the lecture approach when discussion leadership is required he will leave his participants confused and perhaps even suspicious of his motive. In any event, these meetings will result in failure. When poorly administered, conferences become not an asset, but a real liability.



Frank Schwab, Jr.

Gained Experience in Texas Mill Meetings

Gained Experience in Texas Mill Meetings

The authors frequently served as secretaries and participated in many staff meetings at Champion Paper & Fibre Co.'s Pasadena, Tex., mill, gathering firsthand experience. Mr. Rogers is a graduate of Tulane University, with a BBA degree. He was assistant to controller, Lykes Bros. Steamship Co., before joining Champion in 1954. He is assistant chief, management planning, at the Texas mill. Mr. Schwab graduated from Rutgers and earned a master's at Harvard Business School, after serving with the army in Korea. He came out a 1st lieutenant. He joined Champion at Hamilton, O., in 1956 as internal auditor, last year moved to Texas as management engineer.

Nopco Expands at Cedartown To Increase Dispersant Output

Development of an improved chemical additive for the paper in-dustry led to Nopco Chemical Company's installation of a new spraydrying unit at its Cedartown, plant. According to Harry A. Batley, v.p. in charge of industrial production, the unit represents a \$250,000 investment in Nopcosant,® a product used primarily as a pitch dispersant.

"Production capacity can now be increased sixfold," said Mr. Batley.



Halle Sievert Intila

Another "International Conference"

Manchester Machine to Move Manchester Machine Co., Middletown, Ohio, manufacturer of papermill machinery, is building a new \$1,500,000 plant on a 137-acre tract near Monroe, O. President James D. Boyd said should be completed early

Manchester's new headquarters will have nearly 100,000 sq. ft. and more than double productive capacity. Present employment is 140 but this will reach 250 at the new site.

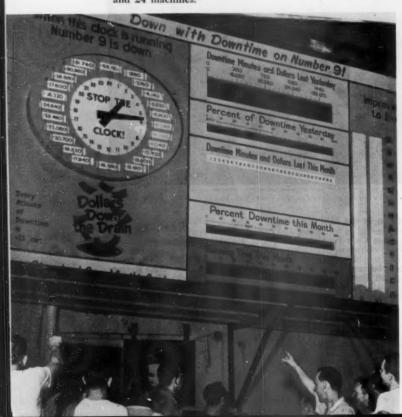
next year.

Two Finns and an American, who have connections with leading paper manufacturing firms in their respective countries, were "making paper" together when this picture was taken especially for PULP & PAPER. All three were honored guests at Beloit Iron Works recent centennial. Pentti Halle is director of the Vuoksenniska, Finland, mill of the Enso-Gutzeit Oy, which is still one of the largest pulp and paper manufacturers in all Scandinavia even though it leads to the content of the largest pulp and paper manufacturers in all Scandinavia even though it leads to the content of the largest pulp and paper manufacturers in all Scandinavia even though it leads to the content of the largest pulp and paper manufacturers in all Scandinavia even though it leads to the content of the largest pulp and paper manufacturers in all Scandinavia even though it leads to the content of the largest pulp and paper manufacturers in all Scandinavia even though it leads to the content of the largest pulp and t Oy, which is still one of the largest pulp and paper manufacturers in all Scan-dinavia, even though it lost its largest mill to Russia after the Russo-Finnish War. Paul Sievert is now paper mfg. counsellor for Southern Kraft Division, International Paper Co., Mobile, Ala., U.S.A. He was former coordinator of all paper mills of the SK Division and for many years held

top executive positions in its organization. Going back to Wisconsin was going "home" for him as he came from that state and has relatives there. Heikki Jutila, president of Finnlines, Ltd., Helsinki, is close to the paper industry of his country as his company's ships are major carriers of pulp and paper and he formerly was in paper industry sales. Both he and Mr. Halle presented souvenir gifts from Finland to Beloit officials. Beloit has built six Fourdriniers in recent years for the Enso-Gutzeit mills, two for newsprint, two for kraft paper and two for kraft pulp. Their combined output is nearly half a million tons a year. The latest, 282 in. wide, is in the Summa mill, and has run 1600 to 1900 fpm.

Cutting Down Downtime

HUGE 'CLOCKS' SHOW MEN on the job how they're doing in the contest. Here men from Ohio's Nos. 9 and 10 machines are looking at the scoreboard near No. 9 machine. Similar clocks are located near No. 10 and Texas' Nos. 23 and 24 machines.



A battle is on between the Pasadena, Tex., and Hamilton, O., mills of Champion Paper and Fibre Co. to see which division can make the greatest savings by cutting downtime on the machine-coat paper machines. Sparked by Production Managers Dick Betz at Pasadena and Bob Stephenson at Hamilton, Champions at both divisions are working hard to win the inter-divisional title. (The same kind of contest could be waged between machine crews in one mill or between mill staffs.)

Ohio boasts they can find new ways to reduce downtime on Nos. 9 and 10 while keeping machine speeds up and maintaining high quality paper. Texas answers that their Nos. 22 and 23 machines can show up anything the Buckeyes do.

Large scoreboards with clocks have been installed to give machine room crews up-to-date information on the contest. Machine room crews and supervisors hold meetings to plan strategy, Special "WOW Grams," telegram-type messages, flash latest news about the campaign to machine room

All have a common goal in mindto cut downtime and save money.

August 1958 - PULP & PAPER

How to develop ...

A Strong Maintenance Department

BY L. R. HARTMAN

Maintenance Supt., Everett (Wash.) Sulfite Mill, Weyerhaeuser Timber Co., Pulp Division

(Specially written for PULP & PAPER)

 If there is ever a Utopia for the pulp and paper maintenance superintendent, it will be the day he can lay out a day's work for all his departments and feel sure each project will proceed without interruption.

And conversely, when he gives up on thoughtful planning because of the expected emergencies he might as well submit his resignation because he and his crews will soon be completely submerged and effectively demoralized by unevaluated spur-of-the-moment tasks.

While I heartily endorse what the average article and book advocates regarding planning, I think more should be said about the unpredicted -the occurrence which knocks the most carefully laid schedule into a cocked hat. How can we plan a day's work and at the same time lay the groundwork for the unexpected? How can we instill in our crews a willingness to jump from a carefully laid out job into a situation about which they knew nothing ten minutes earlier? How can we best encourage a man to use his own ingenuity in solving sudden problems?

Selection of Men . .

Obviously the first step in developing the sort of a crew we all want is to hire the sort of men who will adapt to the situations common to our type of work. Aptitude tests are too often looked upon by us of the old school as a frill, impractical. After all, how can the answers to a battery of questions tell you whether a man will be unstable, whether or not he will be able to get along with other men?

I don't know how they do it, and will have to admit that I was skeptical

Tips for a Successful Maintenance Superintendent:

- 1. Plan work ahead even though emergencies will force changes.
- 2. Select men for maintenance crews with great care.
- 3. Devote an hour to talking to new man about his duties.
- 4. After 90 days, call him again for an appraisal of progress.
- 5. Give your men the authority to act with initiative.
- 6. Use questions to stimulate independent thinking.
- 7. Develop crew participation in planning and a team spirit.
- 8. Resist temptation to meddle in jobs being well done.
- 9. Warn men they must not take chances-must obey safety rules.

when aptitude tests were first proposed for our company. But after seeing them in operation for four years I have come to have a great deal of respect for the insight such a device gives into the character and potential of the individual under consideration.



JOB ORIENTATION and Counseling

Indoctrination Important . . .

If a new man in one of the maintenance departments is going to develop into the kind of a person we want, even before he is assigned as helper he should be told what lies ahead for him, not only in steps up the ladder (his union has probably already given him that information), but what will be expected of him as a helper. He should know how he fits into the overall organization, what an emergency is apt to do to his normal quitting time, how important he may be to the uninterrupted operation of the mill. Although it takes an hour out of a busy day, I have found it extremely worthwhile to call into my office each new man entering any of the maintenance departments. There, in the presence of his lead man and the shop steward, we discuss all aspects of his job. By the end of that interview he realizes that while his new work is not going to be a soft berth, the company is going to treat him fairly and with every consideration possible. It is also apparent that the union expects him to perform to the best of his ability.

After the man has been in the department ninety days he is called into my office again for an appraisal of his progress by his lead man, shop steward and me. If he is doing well he should get a pat on the back. If not, we think a frank discussion is the best way to overcome whatever problems are arising. A similar meeting is held again after another ninety days.

Responsibility Demands Authority . . .

Throughout any maintenance department there must exist a feeling of responsibility. It is up to each journeyman to solve the problems of the day to the best of his ability, without unnecessary interference from his lead man or supervisor. Too often, however, this responsibility is not accompanied by the authority necessary to allow the workman to be fully effective.

Responsibility without authority is



AUTHORITATIVE . . . L. R. (Spud) Hartman, who wrote this article especially for PULP & PAPER, draws from long experience as a maintenance supt. in the Weyerhaeuser organization. He has been a leader for many years in association activities on the Pacific Coast and is widely known in maintenance work in the industry.

not true responsibility at all. But how far can a maintenance superintendent go in granting authority without jeopardizing work for which he is held responsible?

First we must assume that your lead men are men of ability, and that the journeymen under them know most of the tricks of their trades. They know how to do their jobs, and will take a great deal more interest in their work if allowed to solve their problems themselves.

Of course there is the exception to every rule. But even when the maintenance superintendent must step into a critical situation with an important decision only he should make, I feel it can usually be done in a way which will reflect credit to his men. Anyone—helper, journeyman, lead man or supervisor—obtains a degree of satisfaction from feeling he has helped solve a difficult problem. He puts his whole heart and mind into his job when he is proving that a suggestion of his will work.

Questions Are Effective . . .

I have found the use of questions to be very effective in bringing out the suggestions I want and obtaining the needed cooperation. And it makes a great deal of difference how a question is phrased.

A closed question, one which can be answered with a "yes" or "no," generally gets you nowhere. It presents no challenge, provokes no thought.

An open question, such as "Which tool will you use?" or "When will you be ready for the crane?", puts the whole problem on a positive basis. You assume the man can solve his problem, and indirectly express your

faith in him. Such a question also tends to take his mind from the overall task, which to him may at first glance seem overwhelming, and focus attention on a phase more easily accomplished.

The skillful use of questions is definitely not an admission of incompetence on your part, rather an application of applied psychology.



TEAM SPIRIT . . . Team Work . . . A Great Achievement!

Team Spirit . . .

In any group of men working together there is an intangible something which either assists or hinders in the accomplishment of their work. For want of a better term, let us call it team spirit, because it is the same thing that turns a mediocre football team into an inspired powerhouse.

If the crew accepts the unusual and difficult job as a challenge, individually and collectively, each member is going to do his level best to see that his "team" overcomes all opposition. To impart that attitude to his men the supervisor must respect each individual's experience, ability and capacity for making decisions.

A Case in Point . .

To illustrate what has been said about crew participation in major breakdowns and spur-of-the-moment decisions, I think a classic example would be to give a brief description of a job we did to keep our 175 in. chipper going some seven years ago.

The casting under the thrust bearing of the chipper had worn down from corrosion some .051, thus allowing the disc to settle approximately ½ in. out of plumb. It created a dangerous operating condition by allowing the bearing housing to move in any direction. The impact of the logs on the disc made it move violently while in the cut.

We were told that production was necessary and that we should hold downtime to a minimum. We felt we should do something to correct this condition, at least temporarily, to lose the least amount of downtime.

But what? All our shining efforts previously tried had failed.

In my own mind I felt we could pour zinc under the spherically machined bearing housing. I had said nothing to the crew about it because I was not sure.

All the men to be involved in this job were called. All knew the problem. None of us had an answer. We talked about the short time. We talked about the proper way to do it. There were as many ways to haywire it on a temporary basis as there were people to talk about it. None seem to fulfill our requirement.

When zinc with its high melting point was mentioned it seemed to get the most attention, because it had to be poured on a cold casting about 20 in., thick end to be approximately \%16 in., thin end .051 in.

We tried pouring zinc between two pieces of cold boiler plate about as far as we had to go under the bearing housing. It worked beautifully. By this time plenty of enthusiasm was built up and the crew used their best ingenuity all the way. The job was completed in about eight hours actual working time. It lasted eight months. Over the years we have changed the method of pour somewhat and are now getting about one year's operation before a repeat job.

Several chippers on the Pacific Coast have given the same trouble. Our method was used for temporary repair until sufficient time was had to do it properly.

The manufacturers are now using a stainless buildup in the bearing seats which prevents this trouble.

This illustration was not written to demonstrate any unusual ingenuity, but to show what whole-hearted crew participation can bring forth when you are really in need of help and advice gained through experience.

Experience, it is said, is the best teacher.

Do You Meddle? . . .

A supervisor responsible for 80 men cannot possibly dictate the details of every job they undertake, so it goes without saying that at any given time most of his crews are making their own decisions. Why then do so many supervisors feel they have to inject themselves into every job they walk by?

Perhaps your crew isn't doing the job exactly as you would if you were doing it, but if you can restrain yourself from criticizing their efforts you will be ahead in the long run. The men will be much more inclined—

even inspired—to solve succeeding problems if you have demonstrated confidence in their judgment.

I much prefer to have my crews proceed as they feel necessary rather than either continually ask for advice or go ahead half-heartedly, worrying about what I will say when I finally see their work.

At the risk of seeming trite I would like to mention one other phase of this work which is in my opinion as important as anything else—accident prevention.

As supervisor of a maintenance de-

partment you are personally responsible for the safety of each and every one of your men during the hours he is at the mill. And one of the biggest problems we all have is trying to persuade the show-off that taking chances does not prove he's a man but rather demonstrates a degree of immaturity.

In our first conference with a man entering the maintenance department we emphasize safety. I tell him frankly that I have no admiration for the fellow who insists on taking chances and will not put up with violations of any of the safety rules. We

explain the term "accident frequency rate," point out how the record at our mills is among the best in the nation, and explain why. He knows at the end of the meeting that we mean business.

There will never be a Utopia in the pulp and paper industry's maintenance departments. If that day ever came your job and mine would be reduced to a deadly routine. Nevertheless the ulcer-provoking crises and vexing everyday worries can be, to a great extent, minimized if we will devote more of our time and attention to the feelings and reactions of our men.

Pulpmen Elect, Present Cups—That Takes Care of Their Business for Another Year!

One of this industry's most unusual organizations held its annual "meeting" recently. It is unusual because it meets only once a year, and then it transacts absolutely no business whatever.

The organization is the New York Pulpmen's Golf Association and it brought together about 80 members for a golf tournament at the Sleepy Hollow Country Club, Scarboroughon-Hudson, N. Y., June 3-4.

Even the election of officers is pretty painless—they just move up the ladder. Eric Goranson, Cellulose Sales Co., completed his term as president and handed over the McCandless President's trophy to Thomas J. Salb, Bulkley Dunton Pulp Co., who had been vice president. Howard C. "Pete" Peterson, Jr., St. Regis Paper Co., advanced from secretary to vice president. This left the secretary's post





Goranson, out at top . . . Brittain, in at bottom . . . Vaughan, tops at golf

open and here the pulp "peddlers" had to make a new choice. The members agreed unanimously (which is always a surprise when two or more pulp peddlers get together) on David Brittain, of Mt. Kisco, an exec. v.p. of Mead Pulp Sales.

Winners and losers of indoor activ-

ities were both seen entering their banks the next day so it was impossible to differentiate.

Winners of the outdoor activitygolf-were Edward B. Vaughan, Bulkley Dunton Pulp Co., 18 hole low gross, with Doug Shorter, Bowaters Paper Co., runnerup; Walter Lawrence, Gulf States Paper's E-Z Pulp Division, 18 hole low net, with Lou Calder, Perkins-Goodwin Co., runnerup, and Reed Porter, who played under the banner of Reed Pulp Cellulose, 27 hole low net winner, with Arthur E. Potter, Northeastern Paper Sales, runnerup. As for the silverware, everyone was agreed that Mr. Porter was really a guest, so the Anders Trophy went to Mr. Potter. The Pagel Trophy was awarded to Mr. Lawrence.

There was no trophy for Don Seely, Fraser Companies Ltd., who is lefthanded, but reportedly had to play with right-handed clubs, and amassed a terrific score. No one disputed he got the most exercise.

Oh, yes, according to the grapevine, Mr. Porter's true avocation, aside from golf, is as secy-treas., Assn. of Pulp Consumers, Inc. He obviously likes peddlers, as well as consumers, especially on the fairways.



Peterson Potter Salb Lawrence
Two were elected; Two took home trophics



FIRST MILL ON OREGON COAST DRAWS daily chip intake through life-line from G-P Corp. sawmill (background) to outdoor chip storage via high pressure transport line tower supported clear of water navigation (arrow).

Georgia-Pacific Comes In

Mill teams new chip system with West Coast's biggest paper machine (262-in.) to produce strictly market kraft paper

On these ten pages, PULP & PAPER presents a special picture-story on Georgia-Pacific's new mill, synthesized for quick and easy reading.

Features:

- 1. A new chip system
- 2. The West's BIGGEST paper machine
- 3. An Engineer's impressions
- 4. Roundup of highlights
- 5. Letters from President Daniels
- 6. Men who make the mill click

New Exclusive Pictures

The pictures and texts on these pages of the Georgia-Pacific mill, located almost at mid-point on Oregon's Pacific Coast, are by Louis H. Blackerby, Western Editor of PULP & PAPER.

Graphically, he reports the innovations and special features of this mill.

New Chip System Supplies G-P Mill



CATENARY BRIDGE, 600-ft. span, supports auxiliary steam supply line and Rader Pneumatics 70-ton/hr. high-pressure chip transport from sawmill to new pulp mill in background.



TWO SUTORBILT BLOWERS of main Rader high-pressure system deliver C-P veneer and sawmill chips over bridge via 2,200 ft. of 16-in. steel pipe.



UNLOADING CHIPS from other sawmills into Link-Belt car hopper where 140-ton/hr. Rader Pneumatics high-pressure conveyor receives and transports chips 600 ft. to outside storage pile. Whiting Trackmobile brings loaded cars in and takes empties away. RP system is underground, Sutorbilt blower in building opening at right.



G-P's "WOOD MILL"—60,000 units of chips produced from mill residues, equivalent to 30 million bd. ft. Note size of men at right. Rader system transports chips from rail car to top of pile.



TWO SUBTERRANEAN Link-Belt rotary feeders beneath storage pile deliver chips to 30-in. American Rubber belts on L-B conveyors, which converge for final delivery to digesters. To minimize in-pile handling (for which International crawler tractor with special bulldozer is used), chips discharging from each RP pressure transport are directed tangentially to side of cone depressions over feeders.

2. West Coast's Biggest Paper Machine

Feature Units of Coast's Newest, Largest Machine

Georgia-Pacific makes its entry into the industry with a completely new \$22,000,000 mill at Toledo, Ore., containing the largest paper machine on the West Coast, with speed range from 250 to 2,000 fpm.

Besides much stainless steel and bronze, it contains 4,000,000 lbs. of cast iron.

This 262-in. Black-Clawson unit, with cantilever design Fourdrinier

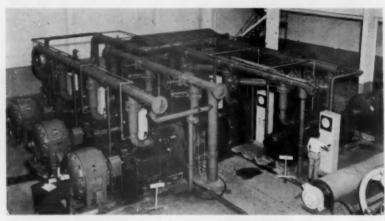
carrying 262-in. by 130-ft. wire, has primary and secondary pressure-type Valley Iron Works inlets, eight stainless suction boxes, 54-in dia. double suction box couch and 28-in. rubber covered bottom couch roll, designed for speeds up to 2,000 fpm, and has headbox-to-winder length of 380 ft. The machine room is 520 ft. long.

The press section consists of two 40-in. main suction presses (containing rolls covered by Huntington Rubber and Griffith Rubber) and a smoothing press all of straight-through operation. The smoothing press serves as lead-on to the four-section dryer line which is equipped with Ross hood and ventilation system.

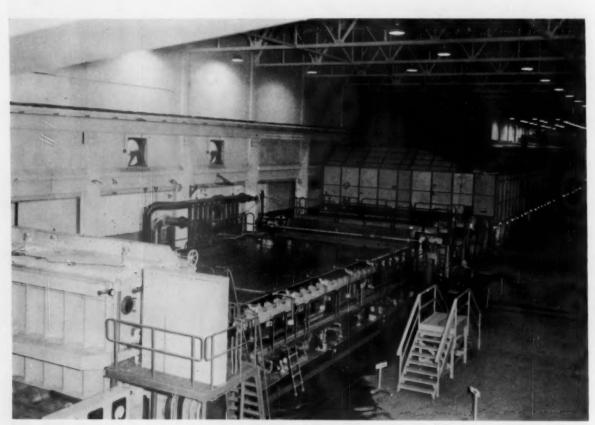
There are fifty 60-in. paper dryers and fourteen 60-in. felt dryers, each 5-ft. dia. by 206-in. face, designed for maximum steam pressure of 125 psi. A breaker stack is mounted between second and third sections, a size press between third and fourth dryer sections. Hood and ventilation were by J. O. Ross Engineering.

Two open-side eight-roll calender stacks are divided by four 60-in. dryer rolls. Calender king rolls are 40 in. dia.

A Black-Clawson constant-speed



AHEAD OF MACHINE . . . E. D. Jones Double-D refiners left; E. D. Jones Majestic jordans right; Dorr-Oliver saveall in far corner.



BIGGEST PAPER MARKET IN WEST . . . Black-Clawson 262-in. machine; Valley Iron inlets, Ross hood; 4-section dryer.

GEORGIA-PACIFIC

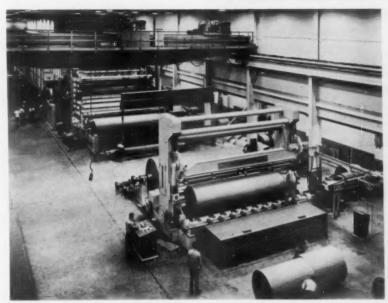
Autoflyte reel and Black-Clawson model A winder complete the paper machine proper. The winder can produce 72-in. dia. rolls at up to 5,000 fpm and maximum trim of 250 in. The machine's amplidyne drive and all motors were by General Electric

The machine was erected in three months.

"Strictly a Market Mill"

Georgia-Pacific's pulp and paper production is 100% for customers, it was pointed out to PULP & PAPER by President H. S. Daniels. "It is strictly a market mill. The entire production is made for the converters or merchants and none reserved for our own converting plant . . . we don't have one."

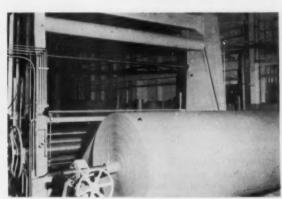
As to quality of the kraft products turned out by the Toledo plant, he says "we believe this mill has come up to quality standards as fast as has any other mill in the industry." His reasons: High quality fiber, latest machinery and top-rate personnel.



DRY END OF COAST'S BIGGEST MACHINE . . . Black-Clawson Autoflyte reel and Model A winder follow rewinder where rolls are cut to size.



STRAIGHT THROUGH PRESS SECTION . . . two suction presses, one smoothing press. First and second press sections use Huntington Peeler-Press top rolls.



LITTLE ONES FROM BIG ONES . . . Black-Clawson-Dilts rewinder makes little rolls carried on Tidland lugtype pneumatic shaft.





POWER FOR NEW MACHINE . . . (Left)—General Electric dc machine driven motors with Western Gear reducers. (Right)—MG set for General Electric amplidyne machine drive for dryers and calender.

3. Engineer's Version of G-P Story

Written especially for PULP & PAPER

BY D. F. WILLIAMSON*

Project Engineer, Sandwell & Co. Inc.

Georgia-Pacific Corp. has grown from modest beginnings some 30 years ago as a lumber wholesaler and exporter to a major producer of luzzber products, plywood, hardwood and now, pulp and paper. Until 1946 its operations centered in the Southern states, with sawmills in Alabama, Arkansas, Mississippi and South Carolina. During the post-war period the management concentrated upon plywood and lumber operations and acquisition of timber resources in the Pacific Northwest.

Current timber holdings in several areas of the Pacific Northwest total some 400,000 acres of land containing in excess of 12 billion bd. ft. Lumber production from these holdings, exclusive of California redwood, is approximately 400 million bd. ft. per annum and plywood production is approximately 425 million sq. ft. per annum.

Decision to Make Pulp-Paper

Pursuing a policy of diversification and full employment of resources. Georgia-Pacific decided early in 1956 to enter the pulp and paper field. The area selected contained the largest stands of timber then owned and processed by G-P. The processing center, at Toledo, Ore., contained plants which produced 135 million bd. ft. of lumber, 57 million sq. ft. of plywood and 43 million sq. ft. of plywood veneer annually. These supply the major part of chip requirements for the adjacent pulp and paper mill. Chips are also supplied by Coos Bay Timber Co., now a wholly-owned subsidiary, and the balance are purchased from mills near Toledo.

Management and Engineering

First step taken by Georgia-Pacific in respect to its entry into the pulp and paper field was to engage its top executive personnel. H. S. Daniels and W. J. Shelton were appointed as president and general manager re-

^eMr. Williamson, graduate in m.e., U. of British Columbia, supervised construction of the Columbia Cellulose pulp mill at Prince Rupert in 1949-51, was resident engineer and operating manager of the Howe Sound pulp mill in B.C., until going on the Toledo project. spectively of the Georgia-Pacific Paper Co, In 1957 Mr. Shelton was elected a vice president.

Sandwell and Co. was engaged to provide engineering services in March 1956. Initial studies confirmed Georgia Pacific's thinking that a plant designed to produce at least 85,000 tons annually of pulp, unbleached kraft paper and linerboard would be an economic venture (recently capacity was increased to 100,000 tons). Provision was contemplated in design for doubling capacity. The Sandwell design provides for possible addition of semichemical pulp production, bleaching, electric power generation and converting facilities.

The plant site chosen was a todal flat on the east shore of the Yaquina River estuary which required eight feet of hydraulic fill to ensure adequate drainage. In addition, load bearing characteristics of the soil necessitated pile foundations. Some 6,500 composite wood and concrete piles of 20-ton bearing capacity were driven during late 1956 and early 1957.

Plant Arrangements and Flow

The plant layout is on a grid with a 20-foot module which establishes most efficient use of the area and provides a flexible and economic arrangement for expansion. The paper machine building is about at the center of the site. The shops and stores building lie immediately adjacent on the south side, and finishing and shipping on the west side. The pulping and boiler plants are to the east connected to the machine building by a corridor.

Chip storage is north of the main mill buildings and the chemical department, recausticizing and lime reburning are south of the main mill.

Main supply of chips is blown 3,000 ft. to the pulp mill from the nearby sawmill. Remainder of requirements is delivered in rail cars and trucks and, from an unloading hopper, conveyed by a second pneumatic system to chip storage which has a capacity of about 70,000 units of chips (about 140 days' production). A bulldozer moves chips from storage pile to two plate-type feeders, one 17 in. diameter, the other 12 in. diameter, which discharge the chips onto a 30-inch-wide belt conveyor system leading to the digestercharging floor in the pulp mill. A weightometer records weights loaded into each digester. Chips are discharged from the supply belt by a tripper into any one of four 4,650cu.-ft. carbon steel direct-cook digesters, with electrically operated blow valves. A direct-contact-type blowheat recovery system is used. Hot water from it goes to boiler make-up and wash water for washers.

Three vibrating knotters and four 11 ft. 6 in. diameter by 4 ft. long vacuum washers are installed on the digester operating floor. Pulp is screened on a line of rotary screens between third and fourth washers. From the fourth washer, accepted pulp is conveyed to two high-density storage tanks, one for paper and the other for linerboard pulp. Screen rejects and knots are returned to digesters with liquor charge.

From high density storage the pulp is pumped to the stock preparation department, which is equipped with three 700 hp. double-disc refiners and three 400 horsepower jordans. Re-

TOWERSAT NIGHT... Water tower and Fuller Airveyor serving salt cake silo at right. Kopper precipitator and Dorr-Oliver causticizing are in this area. Note construction huts still located in foreground.



45



HIGH BOOST . . . Yale fork truck places rolls 16-ft. high in storage with Cascade roll-grab.

finer and machine stock chests are of conventional design with midfeather wall and horizontal agitators.

The 262 in. Fourdrinier paper machine has primary and secondary stock inlets, double suction box couch roll, two suction presses and smoothing press. There are fifty 60-in. paper dryers and 14 felt dryers, a breaker stack and size press, two calender stacks, four inter-calender dryers, reel. and winder.

The machine is driven by a direct current sectional electric drive which has two 1500 hp synchronouc prime movers. Auxiliaries include a tile-lined broke pulper and an 8-in. dia. rotary vacuum-type saveall.

Process steam is generated by a recovery boiler and one 150,000 pph power boiler, both designed to produce steam at 600 psi. Black liquor fuel for the recovery boiler is concenrated in a sextuple effoct evaporator of Swedish design, capable of evaporating 182,000 pounds of water per hour. Over 95% of flue gas solids are removed by the precipitator. Recausticizing is conventional except that the white liquor clarifier and lime mud washer are single compartment units of 45-ft. and 40-ft. dia. respectively. An 8-ft. dia by 250-ft. long lime kiln processes the lime sludge from the plant at rate of 100 tons per day of calcium oxide. Discharge gases pass through primary and secondary scrubbing chambers.

Latest pneumatic and electronic process control instrumentation has been incorporated in all departments of the plant.

Services

Electric power is supplied by a public utility district at 69 kv to a 12,000 kva substation on the mill site. The power is distributed throughout the plant by a 13.8 radial system to 2,400 and 480 volt unit substations.

Process water is supplied through a 30-in. penstock from a 600,000 gal. head tank east of the mill site. The head tank level is maintained by pumps on Olallie Creek. These draw from a fresh water reservoir created by a salt water barrier immedi-

GEORGIA-PACIFIC

ately downstream from the station. During the dry months water is pumped from the Siletz River, eight miles north of Toledo, to a watershed where it is released in accordance with mill requirements.

The fire protection system consists of a 10 in. dia loop which supplies all hydrants and sprinkler systems. An elevated 100,000 gal. gravity tank and two 1,500 gpm pumps with automatic controls complete the system.

Building Design

Machine and shops buildings are structural steel frame with plywood walls. Pulp mill and boiler buildings are also of structural steel frame construction with corrugated asbestos sheathing. Finishing and shipping and stores buildings are wood frame with plywood walls. Machine building, shops, stores and warehouse have wooden roof decks, and the pulping and boiler buildings, precast concrete. The moderate climate permitted outdoor type installations for power boiler, recausticizing kiln and sections of pulp mill. Electrical equipment and controls are enclosed. With the exception of office and laboratory areas, the plant has no windows. Pulping and boiler plant ventilation is accom-plished by adjustable louvres; elsewhere mechanical ventilation is provided. Pulp production started Dec. 21, 1957, and continuous paper and linerboard production Jan. 5, 1958.

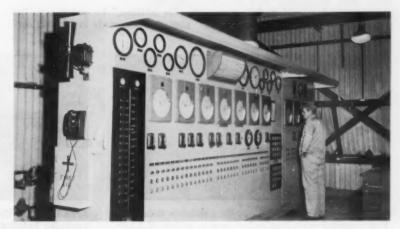
4. Roundup of Highlights from Editor's Notebook

Georgia-Pacific Has Huge Steam and Power Units

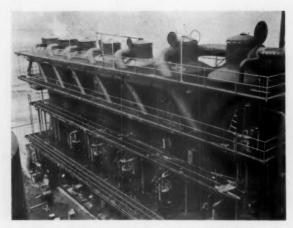
Power and recovery boilers at the new G-P mill were built by Combustion Engineering. Half of the steam is generated by one large 150,000 pph oil-fired boiler. Controls were by Bailey Meter Co.

The recovery boiler can burn 1,050,000 lbs. of solids per day. Both boilers are designed to generate steam at 600 lbs. pressure at 750°F.

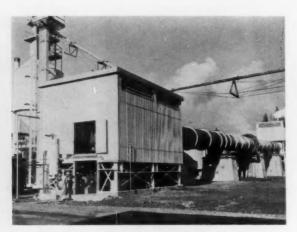
Fuel oil, stored in a 40,000 bbl. capacity tank, is brought in on barges from California, heated and pumped in through an underground pipe system to the tank. The tank is steel and, together with over 40 other steel tanks, was supplied by American Pipe & Construction Co.



SAVES STEPS . . . Bailey Meter combined panel for recovery boiler and evaporator.



FIRST ROSENBLAD EVAPORATOR in North America for kraft industry.



250-FT. LONG Allis-Chalmers lime kiln.

Evaporators from Sweden; Lime Kiln from Milwaukee

The evaporators at the G-P mill are Swedish (Rosenblad) and the first of this type to be used in the United States. They are sextuple effect, capable of evaporating 182,000 pph of water.

The lime kiln is by Allis-Chalmers. A pneumatic handling system unloads hopper cars of lime. Lining of kiln is 6-in. thick brick. The kiln is 8 ft. in diameter by 250 ft. in length.

How High Quality Water Is Provided Year Around

A 70-ft. high dam was built in Olallie Creek, about 5 miles from its Yaquina Bay outlet, creating a billiongallon reservoir to collect and smooth out streamflow. This source is augmented by a waterline extending from the Siletz River, 8 miles north of Toledo, over intervening hills to the lake formed by the dam. The reservoir water can thus be maintained at desired levels, even during the seasonal dry periods, by pumping from the Siletz drainage.

Water flows from the dam downstream to a tide barrier, built near end of the bay, where it enters a pipe leading to the mill.

This supply provides abundant water of sufficiently high quality that it requires but minimum treatment and no filter plant is needed.

Over 13,000 ft. of American concrete cylinder pipe, ranging from 12 to 30-in. diameter, was installed in 32-ft. sections in this supply system.

Cowan Screens Are Spotted Between 3rd and 4th Washers

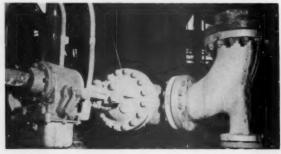
Washers and centrifugal screens for processing brown stock are installed in compact, adjacent locations alongside the digester charging area, to provide easy control by a single operator, according to W. J. Shelton, vice presegen. mgr.

"In addition," he points out, "an alteration was made in what is con-

sidered common practice in screening pulp. Since benefits were expected from less fresh water usage and the resultant decrease in flow of effluent to the sewers, the screens (Cowan by Appleton Machine) were placed in the flow between the 3rd and 4th-stage washers (Dorr-Oliver)."

Stock goes from 3rd stage washer to a 28-ft. diam. x 42-ft. agitated steel-storage tank built by American Pipe & Construction and lined by Huntington Rubber with epoxy-base paint. Here the stock is diluted and sulfuric acid added. The dilute pulp is pumped to Cowan round screens from which accept stock passes to the 4th-stage washer.

Mr. Shelton points out that hot water is used on the 4th-stage washer and 4th-stage filtrate is employed to dilute the pulp from the 3rd stage washer as well as serving as the wash water for the 3rd stage washer. "This provides adequate washing and closes the system in such a manner that no screen white water system is necessary nor any overflow from such a system permitted," he said.

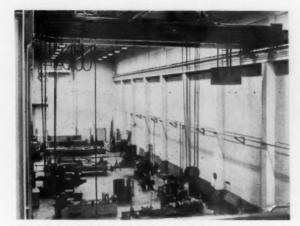


DIGESTER EQUIPMENT . . . Esco stainless fitting and Paul rotorized valve handle discharge at bottom of American Pipe digester.



SPECIAL LINING . . . Alongside digester-washingscreening building, American Pipe & Construction tanks. Two hi-density tanks in middle lined by Huntington Rubber with epoxy-base permolite.

GEORGIA-PACIFIC



SPACIOUS SHOP is adjacent to machine room.



BIGGEST IN WEST . . . Farrel-Birmingham roll grinder.

Biggest Roll Grinder For a Western Mill

The Farrell-Birmingham roll grinder is the biggest one in use on the West Coast. It is mounted on a floating inertia block made of concrete and weighs 170 tons. It is the largest piece of equipment in the Georgia-Pacific shop department, where spare parts and supplies are kept and equipment repaired. The building houses a laboratory, wash rooms, locker rooms and instruments shops.

The Ederer shop crane has a 50-ton capacity. Cranes in the machine room are also by Ederer and are designed so they can be used in event of expansion of the paper machine. One is a 50-ton crane and the other 25-ton.

Precise Schedule Speeded Construction of G-P Mill

Close coordination of the construction program featured building of the Georgia-Pacific mill, says Edmund Ericksen, who served as asst. construction manager prior to production start-up, and is now assistant to the manager.

The complete mill (now raised from 250 to 300 t.p.d.) was built—from the driving of first pile to first production of merchantable paper—in 15% months.

"Construction was maintained on a 5-day work week and only a nominal amount of overtime was required as the project neared completion. Labor forces peaked at 720 men late last November," said Mr. Ericksen.

Programming, follow-through on equipment deliveries, and weekly meeting of heads of all contracting firms, under the leadership of E. W. Hammer, construction mgr., to coordinate the complex integration of several contractors working simultaneously in the area are cited is significant elements of the program.

Construction schedules were maintained as follows:

Jan. 21 to July 26, 1957-concrete poured for paper machine building Mar. 1, 1957 to Jan. 3, 1958-electrical installations

Apr. 15 to Nov. 1, 1957-tank erection

Apr. 22, 1957 to Jan. 1, 1958-millwide mechanical installations

June 10 to Oct. 25, 1957—causticizing, lime kiln, evaporators (tubes rolled at site)

June 10, 1957 to Jan. 3, 1958-all piping

Sept. 9 to Dec. 20, 1957-recovery boiler

Sept. 16 to Dec. 15, 1957-power boiler

Major contractors and engineering firms participating in this Toledo, Ore., industrial project: Sandwell & Co., Seattle, consulting engineers on mill design and supervision of construction; American Pipe & Construction Co., steel tanks (47); Hofiman Construction Co., mechanical installations; Armstrong Cork Co., insulation; Raymond Concrete Pile, piling; Cornell, Howland, Hayes & Merrifield; off-plant water supply and effluent disposal; Anderson-Westfall, structures; Christenson Electric Co., electrical installation; Oregon Boiler Erectors, boiler installations; Hanning & Gonzales, effluent line; Lee Hoffman, water supply subcontract.

Extensive Installations Prevent Air, Liquor Pollution

Georgia-Pacific provided extensive and costly installations to forestop any possible contamination of both air and water. It invested \$750,000 in a 16-in. pipeline for carrying plant effluent out into the Pacific Ocean 7½ miles away, discharging into currents 1,000 yards off shore. A large diked lagoon is provided near the plant for emergencies.

The company installed a doublechamber Koppers tile-shell, wet-bottom electrostatic precipitator to clean the recovery boiler stack gases. This unit, situation between the cascade evaporator and the induced-draft fan feeding the stacks, is designed to remove 95% of particulate matter from 120,000 cfm gas flow.

Besides being an important public relations factor, the precipitator has capacity for recovering up to about 35 tons of sodium sulfate daily from the flue gases.

5. Letters from President Daniels

G-P Paper Co.'s progress was chronicled in unique reports written by President H. S. Daniels and mailed to a large list of recipients. His No. 1 report dated June 18, 1956, provided a basic orientation for events to come.

It told how the \$22,000,000 plant was to be located on the tidal area of Yaquina River 125 mi. southwest of Portland. Major pulpwood supply was to be obtained from adjacent C-P Corp. lumber and plywood plants, these in turn being supplied on sustained-yield basis by the corporation's 4 billion fbm. of timber growing within 30 miles of Toledo. Local streams, augmented by a 70-ft. dam and two miles of pipe line, assure ample water supply.

"The most modern (and expensive)

(parentheses are Mr. Daniels') purification systems-designed to eliminate, rather than merely carry off, air pollution and effluent-should make the Toledo mill a model for future plants on the coast . . .

Report No. 21, last Jan. 3, announced successful production start-

One of the interim reports had this gem about raw-product wood:

"The fiber that will feed the pulp mill is often called 'waste from the sawmills.' That term is correct only in its economic interpretation. Its other connotations-that it is inferior, leftover, useless material-are what make us see red! For this 'waste' is all clean fiber from mature trees that have been selected for conversion into the very top grades of veneer and lumber. There is no better fiber available for conversion into kraft pulp-in fact you could not afford to use such valuable fiber for pulp alone!"

In dedication to the "green gold dust"-(chips from residues) from which G-P kraft is produced, Mr. Daniels converted from black to green for printing his verbal nuggets.

Here's what he said about chip uniformity: "If you don't follow the importance of uniform size, ask your wife what happens when she puts big and little potatoes into her pressure cooker. She'll tell you that the big ones will still be raw when the little ones are done . . . that's just what happens when you cook chips. If they are not of uniform size, the big will only be soggy chunks of wood by the time the little ones are ready to serve -or if the big ones are done, the little ones will be cooked to the point that their fibers have no more pep left than a cigaret in a Turkish bath.

Recession is Propaganda

Here's another excerpt from the Daniels correspondence:

'Way back in Progress Report No. 6-when the Toledo mill was only a sea of mud in which a few lonesome caterpillars were wallowing aroundwe passed along to you the following quotation from Elbert Hubbard:

"I believe in the stuff I am handling out; in the firm I am working for; and in my ability to get results. I believe that honest stuff can be passed out to honest men by honest methods. I believe in working, not weeping; in boosting, not knocking; and in the pleasure of my job. I believe that a man gets what he goes after; that one deed done today is worth two deeds done tomorrow; and that no man is down and out until he has lost faith in himself.

Since that time there have been some rumors of a recession-which one









R. B. Pamplin J. N. Cheatham H. S. Daniels R. L. Floweree

G-P Has Widespread Operations

Georgia-Pacific Corp. has 22 lumber, plywood, pulp and paper operations. Executive offices are at 60 East 42nd St., New York City. It has offices and operations in Georgia, Washington and Oregon-next it goes to Juneau, Alaska, for woodpulp (starting in next three years). Mr. Pamplin is president of G-P. Mr. Cheatham is vice pres., in charge of lumber sales and export, and was active in planning pulp and paper venture. Mr. Daniels is president of G-P Paper Co. and a director of G-P Corp. since 1956. For 11 years he was exec. v.p.-sales mgr. of Union Bag & Paper Corp. Mr. Floweree is vice pres. in charge of Western lumber-pulp products.

commentator aptly described as 'propaganda started by a small group of the unemployed.' If anyone in your organization is inclined to take these rumors seriously, we recommend Dr.

Hubbard's prescription, to be taken three times a day and once at bedtime.

"For, as the Cynic's Dictionary says: 'All stocked up' is merely a sign that someone has passed that way before."

6. Men Who Make Things Click

WILLIAM J. SHELTON, vice president and resident mgr. at Toledo, Ore., was first of Georgia-Pacific Paper Co. mill staff to be engaged. He came from Longview Fibre Co., Longview, Wash., where he worked 20 years, the last eight as supt. of pulp and paper mfg. He is a graduate of Washington State College.

His two principal aides are E. E. ARCHIBALD JR., asst. mgr.-production, and EDMUND ERICKSON, asst. mgr.engineering. Mr. Archibald was asst. to the manager, Potlatch Forests, Inc., Lewiston, Ida., and spent many years in the South, chiefly at Hollingsworth & Whitney, Mobile, Ala. He graduated from Louisiana College and received a master's from U. of Alabama. Mr. Erickson was former chip procurement engineer with Longview Fibre, came to Toledo as asst. to the mgr., and continues to handle those staff duties as well as engineering, construction and maintenance. He graduated from Oregon State College.

Other key men and their titles (in parentheses where some came from): W. H. YOUNGCHILD, paper mill supt. (Potlatch Forests, asst. paper mill supt.); WILLIAM E. Ross, pulp mill supt. (Rome Kraft Co., Rome, Ga., staff tech. asst.); ALAN D. ANDERSON, plant engineer (Longview Fibre Co., pulp mill engineer); Roy R. WIBERG, technical supt.; ARTHUR JONES, con-







Shelton Archibald











Youngchild Ross Anderson Jones Wilson O'Dell

troller for G-P Paper Co. at Toledo (Longview Fibre Co.); ROBERT WILson, divisional controller; JACK O'Dell, district traffic mgr., and PAUL LOGAN, electrical supt. (Racquette River Paper Co., Potsdam, N.Y.); HAROLD GILLASPIE, mechanical supt. (mechanical foreman at

Longview Fibre Co.); Bud Lowe, senior eng. (project engr., Hoffman Construction Co.); GEORGE HUCKABY. junior engr. (Sandwell & Co.); MIKE FRYE, mechanical foreman (Quaker Container Corp.); HAROLD BANCROFT, purchasing agent (Hoffman Construction Co.); ROBERT A. NELSON, store

GEORGIA-PACIFIC

supt. (Longview Fibre Co.); G. H. Horton, paper orderer and machine scheduler; and JAMES TOUGH, personnel supervisor (Rayonier's Shelton, Wash., mill).

Pulp mill foremen are JACK HEWITT (Fibreboard Paper Products, Antioch, Calif.); CLAYTON MITCHELL (Weyerhaeuser Pulp, Longview, Wash.); AMES ESSELMAN (Longview Fibre Co.); and G. B. SWITZER (Mead Corp.). Paper mill foremen are: E. E. ROBERTS (22 years in mills); GEORGE JOHNSON (had retired from Crown Z, Camas, Wash.); ARTHUR FERENZ and A. B. MONTGOMERY.

















Hewitt Mitchell Esselman Switzer Roberts Montgomery Ferenz Johnson

Georgia-Pacific Mill Equipment Suppliers

Paper machine, reel, winder, rewinder

Recovery and power boilers

Evaporators, heat exchangers, and Kalle consistency regulator Saveall, washers, thickeners, causticizing Jonsson knotters Precipitator Lime kiln, primary fan pump, fire pumps Jordans and refiners

Machine inlets Paper machine drive and all electrical equipment Resin size emulsifier

Process control instruments

Control valves

Consistency regulators Roll grinder Process pumps, secondary fan pump Hot lime handling, chip conveyors, rotary feeders, high density conveyors

Boiler controls

Machine hood and ventilation

Black-Clawson Co.

Combustion Engineering, Inc.

Rosenblad Corp.

Dorr-Oliver Inc. Bird Machine Co. Koppers Co.

Allis-Chalmers Mfg. Co. E. D. Jones & Sons Co. Valley Iron Works

General Electric Co. Hercules Powder Co. Foxboro Co. Mason-Neilan (Worthington) DeZurik Corp. Farrel-Birmingham Inc. Goulds Pumps Inc.

Link-Belt Co. Bailey Meter Co. Buffalo Forge Co. J. O. Ross Engineering Lowerator Saltcake system Water softener

Wood stave tanks

Digesters and steel tanks

Permalite coatings Digester auxiliaries

Screens (Cowan) Chlorinator Air Compressors Agitators Gear reducers Cranes Vacuum pumps Re-winder shaft High pressure chip transports Conveyor belts Fork truck Roll grab Roll conveyor

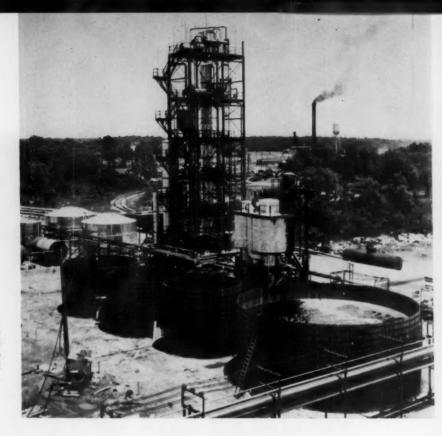
Stainless fabrication Saunders valves Stock valves Gate, globe and check valves Tile work

American Mfg. Co. Fuller Airveyor Co. Graver Water Conditioning Co. Federal Pipe and Tank American Pipe & Construction Co. Huntington Rubber Co. Electric Steel Foundry Co. Appleton Machine Co. Wallace & Tiernan Ingersoll-Rand Co. James Brinkley Co. Western Gear Corp. Ederer Engineering Co. Nash Engineering Corp. Tidland Machine Co. Rader Pneumatics Co. American Rubber Co. Yale Co. Cascade Mfg. Co. Lamb-Grays Harbor Co., Northwest Copper Works Grinnell Co. Royang, Inc. Redding, Pratt & Cady

Chemical Linings, Inc.

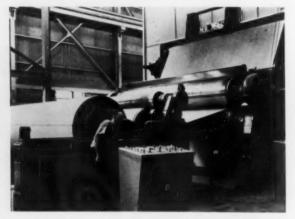
New Process Is Key to Expansion

INSIDE THIS NEW CHEMICAL RECOVERY PLANT is where Sonoco's researchmen convert black liquor into acetic and formic acids. It demanded more waste for successful operation. . . .



So, Sonoco Starts Up Big No. 10





TWO VIEWS OF NEW MACHINE show open headbox, left, designed so it can easily be changed into pressure headbox. At right, dry end of machine as some of first paper rolls off. Name plaque—"Mr. Mac"—is over reel on hood. Other Fourdrinier is called "Mr. Sonoco."

By WILLIAM F. DIEHL JR. Southern Editor, PULP & PAPER

Hartsville, S.C.

• Sonoco Products Co.'s new 190 in. Black Clawson machine is now officially on-stream, marking the end of the largest expansion program in the firm's 70-year history—and the end, too, of a unique series of events.

It might easily be said that No. 10 machine is a perfect example of a tail wagging a dog.

For 15 years Sonoco researchmen have been seeking an economical method for increasing production without increasing stream pollutionhardly a singular problem in the paper industry. Sonoco found the answer and also found that increased production was not only possible—it was necessary!

The secret to Sonoco's expansion program actually lies in its new chemical recovery plant. Here a team of researchers headed by W. A. Biggs, Jr., developed the Acetic Acid Recovery Method, successfully converting black liquor and other waste into acetic and formic acids, both of which are profitable by-products. Once developed, however, Sonoco discovered that in order to operate profitably more waste would be needed. Result:

A \$10 million expansion program featuring a two-compartment Sprout-Waldron continuous digester, first of its kind in the industry, a new machine, other major improvements.

This investment, the fourth largest in the history of South Carolina, represents a 50% increase in the overall value of plant and equipment at Hartsville. The machine will produce 9-point semichemical board and its entire output will be purchased by the F. J. Kress Box Co., St. Regis Paper Co. and the Birmingham Paper

Sonoco's new hardwood pulp plant will supply pulp to both No. 8 and



SPRAWLING SONOCO PLANT now includes two semichemical Fourdrinier machines, eight cylinder machines, converting departments for production of cones, spiral tubes, parallel tubes, convolute tubes and chemical products. New machine is housed in long, flat building at right center, chemical plant is top right of area.

No. 10 Fourdrinier machines. The Sprout-Waldron continuous digester is 8 ft. in dia., 39 ft., 4 in. long and has duplicate compartments capable of producing about 225 tons of bone dry pulp a day. A 24 in. Sprout-Waldron rotary valve chip feeder, with alternate screw feed system on one side, moves chips into the tubes. Cooking time can be varied in the digester from 11 to 20 mins. at 170 psig.

After discharge, cooked chips are passed through a 36-2 single rotating disc Sprout refiner, six Sprout-Waldron-V. D. Anderson Fiberpresses and into tile-lined leaching towers. An elaborate Foxboro graphic panel permits accurate control of the process.

Expansion also includes a 15,000 kw-hour generating plant with a General Electric 12,500 kw double extraction condensing steam turbine designed for 1250 psig at 950° F.T.T.

The 190 in. (170 in. trim) Black-Clawson machine, named "Mr Mac" after veteran Corrugating Division Supt. P. J. McCall, is designed for speeds of 500 to 1500 fpm and includes an open headbox so arranged that it can be converted into a pressurized box at some future date. The Hydroflyte Fourdrinier is permanently cantilevered. It has a lumpbreaker. There are two 34 in. suction press rolls, in straight through arrangement. The press section is so arranged that a vacuum pickup felt can be installed in the future. There are thirty-four 60 in. paper dryers and eight 60 in. felt dryers, 150 lbs. pressure, double-decked. A breaker stack is between first and second dryer sections.

Machine is equipped with a Sheahan automatic paper carrier, Johnson equalized pressure steam joints, Mason-Neilan dryer drainage system and moisture control, a two roll calender, Autoflyte pneumatic operated drum type speed reel for rolls up to 96 in. diameter and a Black-Clawson No. 40 winder which will operate up to 4500 fpm.

In dedicating the new machine, Sonoco Vice-Pres. Charles W. Coker observed that the company's first paper machine, installed in 1892, was put in at a total cost of \$19,050—quite a comparison to the \$10 million investment in No. 10. More than 300 guests and newsmen watched as Aaron Tyner, whose 59 years of service with Sonoco dates back to 1899, threw the switch and started up the big machine.

AT NO. 10 STARTUP: Corrugating Div. Supt. P. L. McCall in foreground. Others (1 to r): Stanley Boyd, second asst. corrugating div. supt.; Al Krutchenski, Black-Clawson erection engineer; Floyd Powell, corrugating div. engineer, and Howard Morgan, first asst. corrugating div. supt.





FLANKED BY LIGHTS AND TV CAMERAS, Sonoco's exec. v.p. Charles W. Coker, dedicates new No. Ten Black-Clawson machine to "Mr. Mac"—Fourdrinier Supt. P. J. McCall.



EXPANDING PULP MILLS like Eastern Corp's. Lincoln, Maine mill are keeping the growth in kraft pulp. Easy access to Maine forests (background) set stage as . . .

Eastern Shifts to Bleached Kraft

Significance: Eastern can now supply bleached kraft to its five paper machines, also to its two new sister mills, Missisquoi and Fonda Container, stemming from Standard Packaging merger

• With this new and completely modern 175-tpd mill, designed and constructed by The Rust Engineering Co., Eastern Corp. rounds out its Purocell family of fibers. It now produces sulfate as well as sulfite pulps for the manufacture of its Atlantic and Manifest lines of fine business papers. Sulfate pulp will be sold as an addition to Eastern's line of Purocell market pulps.

Designed for compactness and reduced labor requirements, the new mill supplants Eastern's 100-tpd Lincoln sulfite pulp mill, which stopped production at the end of March.

Outstanding features: 1-A woodyard flume for rough wood conveying; a practice not com-

mon in Northern winter operations.

2-The Kamyr continuous digester, reportedly first installed primarily for

hardwood pulping in North America.

3—Brown stock washers and bleach washers located on a common operating floor to save labor and for ease of operations.

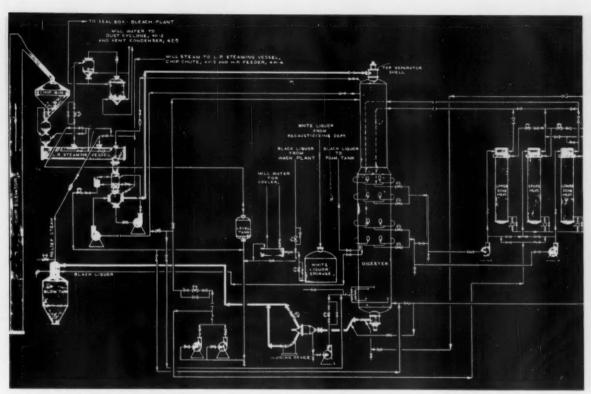
4—The use of Venturi scrubber and cyclone evaporator for fume recovery and contact evaporation at the recovery boiler; a recent development.

Digester Operation

The Kamyr continuous digester is rated at 150 tpd on softwood and up to 200 tpd on hardwood. A cylindrical chip tank at the top of the digester building supplies chips to a rotary pocket feeder which with its variable speed drive is the primary means of metering and controlling digester production rate.

A Navco vibrator in the hopper ahead of the chip meter prevents arching. Chips pass through a rotary low-pressure feeder to make the transition from atmospheric pressure to the 15-20 psi maintained in the steaming and preheating stage. The pre-heated chips drop down a chute to the high pressure feeder, a rotary device through which pressurized liquor from the top of the digester vessel is recirculated to convey chips continuously into the digester, as the chip pressure is increased from 15 to 165 psi.

The digester is 10 ft in diameter at the base, 74 ft. high and is constructed of mild steel boiler plate, 2 in. thick. At the top, the vessel is fitted with internal strainer plates through which the conveying liquor passes, with a rotating scraper continuously cleaning the plates. White liquor is added at the top of the di-



FLOW SHEET FOR KAMYR DIGESTER system at Eastern Corp.

gester by a DeLaval two-stage pump.

Two indirect heating and circulation systems, maintain uniform temperature zones located about halfway and two-thirds down the digester. In this manner a controlled temperature gradient from 230°F, at the top of the vessel to 340°F, in the lower zone is maintained to insure proper cooking and uniform pulp quality.

After cooking, three and one-half hours, pulp is discharged from the bottom of the digester through a disc strainer, which extracts liquor for pumping back into the discharge zone of the vessel to facilitate flow of cooked chips by dilution. The pulp passes through a variable orifice blow valve to the blow tank. An agitator within the disc strainer serves to prevent channeling, and also provides a torque signal to control pulp consistency to the blow tank.

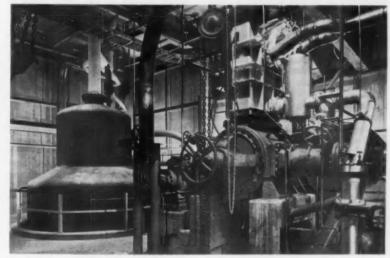
Brown Stock Washing

The cone-bottom blow tank contains 12 minutes' run of pulp and is maintained at 12% consistency and 15 psi back pressure. Exit consistency is controlled by an output torque signal from an Impco vertical agitator, which in turn operates a black liquor dilution control valve. Stock at 3½% consistency is pumped from the tank to a headbox supplying two Impco vibratory deknotters. Accepted stock is

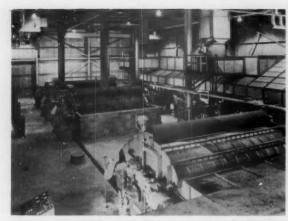
diluted to 1% consistency and flows by gravity to the inlet of the first stage washer.

Principal equipment consists of three Impco vacuum washers in three stages for countercurrent washing with intermediate repulpers and a shredder conveyor at the discharge end of the third stage, feeding into the brown stock high density storage tank. The filtrate tanks are horizontal cylindrical vessels, and have, at the horizontal center lines, interface areas of 200%, 175% and 150% of their respective washer areas to minimize foam generation, to diminish liquor losses and operating troubles.

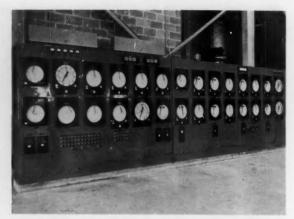
Residual soda in the pulp from the washers is sensed by measuring the conductivity of the filtrate from the third stage washer.



HIGH PRESSURE CHIP FEEDER (right) and top of blow tank.



GROUPING OF WASHERS, brown stock and bleached, saves labor and facilitates ease of operation.



MAIN PANEL on operating floor groups controls and alarm system for bleach plant and brown stock washing.

Screen Room

From the storage tank containing 40 tons of brown stock at 12% consistency and equipped with Impco mining nozzles, dilution system and agitation equipment, stock is pumped at 3% consistency through a DeZurik pipe line type regulator to a headbox above the screens. White water from the decker filtrate tank is blended with the pulp, and the mixture at 1.25% consistency flows by gravity to the screens.

Two Cowan Mark "A" centrifugal screens, discharge accepted fibers by gravity to the inlet box of an Impco vacuum decker. Thickened stock from the decker repulper is passed through a DeZurik pan-type regulator at 3.5% consistency to a tile midfeather-type stock chest.

Rejects from primaries are pumped to the inlet of a Cowan "Junior" secondary screen. Accepted stock from secondary is passed through a bank of Bauer cleaners before entering the decker inlet box.

Bleaching

The four stage bleach plant has two stages of chlorine dioxide treatment to produce pulp of 90GE brightness.

Pulp at 3.5% consistency is pumped from the screened stock chest through an Impco chlorine mixer to the tile-lined upflow chlorination tower for a retention time of one hour. Chlorinated pulp is overflowed at the tower top and pumped to a vacuum washer, with single press roll and shredder conveyor, discharging at 14% consistency. Mixer, circulators, pumps, piping and vacuum washer are rubberlined.

From the chlorination washer, the thickened pulp is fed a metered quantity of 10% caustic soda solution and then passed through a double shaft steam mixer, where direct addition of 40 psi steam heats the material to 160°F. The pulp drops into the tilelined caustic extraction tower, and is retained for 120 minutes. The thick stock is diluted at the tower base and pumped to the cast iron and steel caustic extraction vacuum washer. This washer, with two press rolls, de-waters the fiber mat to 15% consistency before the pulp enters the C10° bleaching stage.

After passing the double shaft mixer and being heated to 170°F., the pulp drops through a stainless steel chute to the feeder ahead of an Impco thick stock pump. This pump forces the pulp through a Hastelloy "C" C1O₂ mixer and upward through the "pre-retention" tube. The balance of the reaction takes place during the 240 minutes in the down flow, high density bleaching tower. The bleached pulp, diluted at the tower base, is pumped to the C1O₂ washer, constructed of 317 stainless steel.

From the last washer, the fully-bleached pulp drops to a belt conveyor and is carried to two bleached high density storage tanks. The hardwood tank has a capacity of 160 a.d. tons at 14.5% consistency: the softwood tank holds up to 80 tons.

These tanks were constructed of reinforced concrete by the sliding form method, and each is tile lined. A separate pump and piping system conveys pulp from each storage chest at 4.5% consistency to the existing paper mill slush stock handling system. Here the pulp from the new kraft mill is processed either into dry baled market pulp, wet laps for intermill use, or transferred as slush directly to the Lincoln paper mill stock preparation department.

The chlorination and C1O₂ washers

are each equipped with an inlet box hood and DeBothezat bifurcated exhaust fan, designed to sweep fumeladen air back across the face of the washer cylinder while still permitting access to the showers and drum, which is not possible with a totally enclosed hood.

A 10% caustic solution is added to the filtrate from the first and second C1O_2 washer to raise the pH, to destroy the oxidizing power of any residual C1O_2 and to minimize corrosion.

Bleach Liquor Department

Liquor chlorine from rail cars is vaporized in a Hooker circulating hot water chlorine evaporator and is piped directly to the chlorine mixer ahead of the chlorination tower.

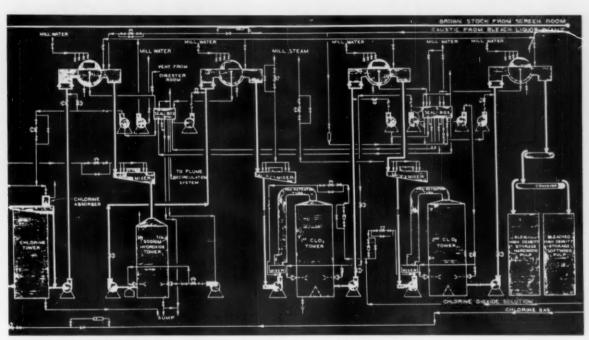
Caustic soda is unloaded from tank cars or trucks as a 50% solution, or as a 73% solution which is then diluted to 50% and cooled in a Brown fintube exchanger. Two 14,000-gal. tanks store the 50% solution, which is further diluted to 10% solution in a 17,-000-gal. tank before being metered to process.

Chlorine dioxide is generated by a three-ton per day Solvay Process System.

Evaporators and Recovery

Weak black liquor is pumped at 14.5% dry solids to a 158,000-gal. storage tank, from which liquor is fed to the six body, sextuple effect Goslin-Birmingham evaporator tank, rated at 135,500 lbs./hr., with steam economy of 5.17 lbs. of evaporation per pound of steam input. Strong black liquor at 45% solids concentration is pumped to another 158,000-gal. tank ahead of the recovery boiler.

Stainless steel tubes and vapor head protection are included in No. 1



FLOW SHEET FOR BLEACH PLANT shows four-stage bleaching operation using two stages of ClO2.

effect. The second effect is equipped with stainless steel vapor head protection while stainless liquor piping is provided from the third effect through first effect.

The recovery boiler and furnace. designed and fabricated by Babcock & Wilcox Co., is rated at 69,100 lbs./ hr. of steam at 600 psig, 650°FTT, and consumes 20,400 lbs./hr. of saltcake-free black liquor solids at this steaming rate. The liquor system features a Venturi scrubber and cyclone evaporator separator for fume recovery and contact evaporation to build up liquor solids content to the concentration required for firing.

Recausticizing

The recausticizing system is a conventional Dorr-Oliver slaking, causticizing and clarification arrangement. Green liquor from recovery is first clarified and flows by gravity to an 80,000-gal. storage tank.

Pumped from storage, the liquor is mixed with reburned lime in a primary slaker where it is agitated and circulated and then pumped to a secondary slaker which is equipped with a dregs classifier rake. Here the slaking is completed and fresh makeup lime added.

Flow is continued by gravity through a series of three causticizing tanks, each equipped with a paddle agitator. The slurry is then pumped to a unit tray white liquor clarifier. Clear white liquor is pumped to

storage at the digester, and mud slurry is transferred to a dual tray lime mud washer for counter-current washing to recover residual soda. Clarified mud is pumped to lime mud storage ahead of the kiln, and weak wash flows to storage, from which it is pumped to recovery for smelt dissolving. Green liquor dregs are further washed before being sewered.

The lime mud, at 35% solids, is further washed and dewatered to 60% solids in a Bird Machine Co. centrifugal filter, and then is introduced into the kiln by a screw feeder. The kiln, an 8 ft. diameter by 250 ft. long Allis-Chalmers unit, has a capacity for a 100% future plant expansion.

A new 5,000 kva, 4160 volt single extraction-exhausting turbine with generator and exciter was installed in the plant power house. The Lincoln plant now generates all of its power requirements under normal conditions.

Building Construction

The new buildings in the kraft mill are on spread footings and are struc-tural steel framed. The recovery and recausticizing buildings have corrugated asbestos-cement siding only, but the woodroom and pulp building are further protected with a layer of 1% in. insulating fiberboard protected with flat asbestos-cement board on each side. Roofs are of precast concrete channel slabs covered with 11/2 in. fiber insulation and four-ply, builtup roofing.

Electrical Distribution

Primary distribution voltage plant has been changed from 550 volts to 4160 volts and new primary switchgear protection installed. An existing 3125 kva generator has been rewound for 4160-volt service. The 5 kv distribution cable is butyl rubber insulated and protected with interlocked aluminum armor covered with a layer of polyvinyl chloride. A unit load center is located in each building for 4160 volts to 550 volts step-down, rated 750 kva each in the woodroom, recovery building and recausticizing building, and 4,000 kva in the pulp building. All motors, with the exception of the chipper, are 550-volt units, with plant lighting system at 110/220 volts.

Aluminum cable tray is used in place of conduit running throughout the plant.

Steam Supply

High pressure steam is generated at 600 psi, 650°FTT by the new recovery boiler, as well as by an existing 70,000 lbs./hr. oil-fired power boiler; 600 psi steam supplied to the two turbine generators is extracted at 175 psig and 40 psig, the energy levels at which steam is distributed throughout the plant. In addition, there are several existing 175 psig output pressure, oil-fired boilers that are available for stand-by or emergency.

Rust Engineering Co. engineered and constructed the project.



Paul Baldwin, Vice Pres. i/c mfg., Scott Paper Co. (left) and Phillip Mintzer, Allendale Garment Co. Inc. (both wearing Dura-Weve bow ties), display . . .

Scott Answer to Oversupply: Dura-Weve

Has properties of cloth, economies of paper.

Scott Paper Co. is producing a new paper product which is replacing textiles in some fields and at the same time upgrading paper. Dura-Weve has the drape, fold and feel of textile. It is absorbent, strong and washable.

When it began developing Dura-Weve, Scott's problem was to make a soft paper strong and a strong paper soft. For strength, Scott took American Viscose's rayon scrim, laminated it between two layers of high wet strength, Perf-embossed paper. Perfembossed, a Scott exclusive and registered trademark, gives the paper its soft, nubby clothlike appearance.

Scrim is a lightweight, open-mesh, net-like fabric construction which imparts multi-directional dimensional stability and tear-resistance.

"The potentials of using an economical, durable paper product to replace textiles are practically untapped," explains Paul Baldwin, Scott vice president i/c manufacturing.

In this "new exciting adventure in papermaking" as one Scott executive called it, here are some of the untapped potentials: Sheets (the U.S. Army is interested in disposable sheets, etc., to replace linens it must carry camp to camp), hospital garments, laboratory uniforms, curtains, draperies, children's clothes, headrests for trains and airlines, unlimited industrial apparel uses, baby crib sheets, pillow cases, party dresses, housecoats, cocktail and barbecue aprons.

Savs Scott's fashion expert, Mrs. Enid Smallwood, "A woman expects more than just color and economy. She expects fashion and styling." Scott solved this by showing its Dura-Weve to a progressive New York fashion house, Allendale Garment Co., Inc., which specializes in dusters ("largest manufacturers in the world"), aprons, tablecloths, etc. Allendale saw the possibilities, set its plants to producing tablecloths, barbecue aprons (two for 69¢, his and her), bib aprons (three for 79¢). At a press conference, Scott executives and waiters were outfitted with Dura-Weve checkered bow ties and matching handkerchiefs.

Candidate for "Oldest" Supt.?

Who is the superintendent longest in service and still working?

At least in the Middle West, that honor seems to have passed from Arthur W. Cole to Arnold Weller, both in Kalamazoo mills. There probably will be others, elsewhere in the country, to challenge Mr. Weller, who has been supt. for 30 years at one mill, Sutherland Paper Co.

Mr. Cole passed the "crown" on to his friend after retiring as gen. supt. at Rex Paper Co., a position he held 31 years. Just a few months earlier— Mar. 1—Walter F. Wolfe retired after 21 years as supt. at MacSimBar Paper.

Henry G. "Heine" Nendorf, a veteran himself as a coating supt., has succeeded Mr. Cole. Leslie Peck succeeded Mr. Wolfe.

Mr. Nendorf was coating supt. at Rex 35 years and before that ran the old Allied Paper coating mill in Otsego. If it was considered "cricket" to pick a coating or special supt. as the "oldest in service," he might win hands down. But he is just starting as a "general."

Art Cole will make his home on Route 3, Delton, Mich. His wife died in 1955. Born Dec. 20, 1886 on a farm in Oconto county, Wis., he got his first taste of papermaking in Kimberly-Clark's Niagara, Wis., mill as a "swipe" on a machine. He went on to Lady mith, Park Falls, Merrill and Rothschild, Wis., mills (seven years in Marathon mill there), then to Monarch Paper in Kalamazoo and finally he landed at Rex in 1918 as machinetender. By 1927 he was general supt.

Mr. Weller was born in Grand Rapids, Mich., but his entire career was at Sutherland. Mr. Wolfe started his career at Ohio Box Board.

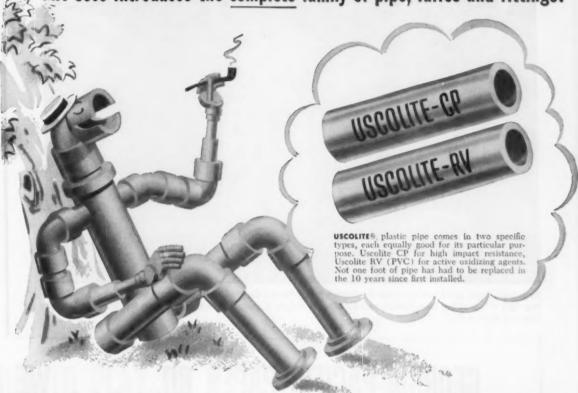


Gen. Supt. Nendorf Ex-Gen. Supt. Cole Supt. Weller Ex-Supt. Wolfe



PIPE DREAMS come true!

Mr. Usco introduces the complete family of pipe, valves and fittings!





uscoweld* Fittings are the only solvent-weld fittings with an interference fit. Greater joint strength, faster insertion. Non-porous, leak-proof. Made of either Uscolite CP or RV materials.



USCO® VALVES offer a choice of either Hills-McCanna diaphragm valve or Vanton "Flex-Plug" gate valve.



USCOFLOW is a new, black utility pipe, especially suited where low first costs are a factor. It is a blend of styrenebase resin and synthetic rubber for good impact resistance and high tensile strength.

The "Usco" Plastic Pipe Line of precision-molded pipe and fittings for every corrosion and flow problem includes elbows, tees, couplings, flanges, reducing bushings, plugs, caps, nipples, bends.

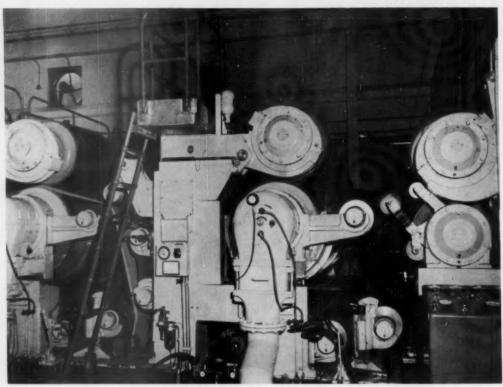
When you think of plastic, think of your "U.S." Distributor. He's your best on-the-spot source of technical aid, quick delivery and quality plastic pipe and fittings.



Mechanical Goods Division

WORLD'S LARGEST MANUFACTURER OF INDUSTRIAL RUBBER PRODUCTS

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First and second press section using Huntington Peeler-Press Rolls (designed to operate without doctoring). On top right is Smoothing Press Section with Huntington Rubber Covered Smoothing Press on top with Huntington Microrok Bottom Roll.

GEORGIA-PACIFIC PAPER CO. WE ARE

-- in Rubber Covering Your Rolls

Huntington

For Rubber Roll Covering we are licensed on the west coast by Stowe-Woodward, Inc., Newton Upper Falls, Massachusetts

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Huntington's Protective Coatings. In foreground, two Hi-density towers (300,000 gal. each), a portion of complete Permolite Coating installations totaling seven steel tanks, five concrete chests.

PROUD TO PLAY AN IMPORTANT ROLE

- - in Protective Coating Your Tanks and Chests

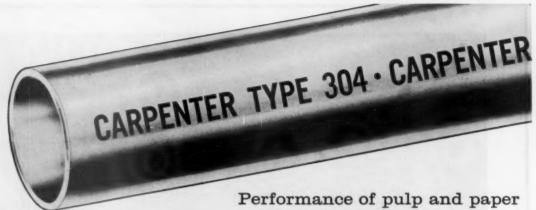
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Top quality applicators for Epoxies, Phenolics, Vinyls, Furanes, and Kel F, both factory and field applied

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mill tubing can be predicted only when these steps are taken





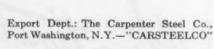








All Carpenter full finished Welded Stainless Tubing passes through these 4 steps, and they add up to a big extra for you . . . predictable performance. These steps mean less cost over the long performance life of the tubing. How much does downtime cost you per hour? Isn't Carpenter cold drawn, fully annealed, pickled and passivated stainless tubing worth the difference? Ask your Carpenter Representative for the full story on paper mill tubing. Or write for Bulletin TD 120. The Carpenter Steel Company, Alloy Tube Division, Union, N. J.





Carpenter Pickled and Passivated

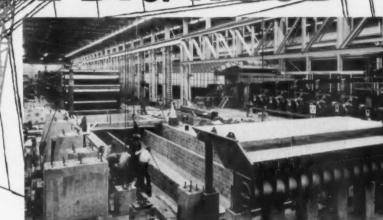


Stainless Tubing & Pipe



Engineered Atmospheres for Better Processing

THE BIGHOOD



...if bigness is a requirement Ross can provide it, but always conforming to sound engineering principles

Not long ago the Whippany Paper Board Company, Whippany, New Jersey, pressed the starting button of its new 234 inch cylinder board machine, believed to be the largest of its kind and capable of producing up to 500 tons of cylinder board daily. Under construction in the same mill is a 250 inch machine which in addition to its unprecedented bigness will be quite flexible. It is designed to produce practically any paper product from newsprint to liner board.

Ross Hoods were selected to take care of the drying requirements for both the 234 inch board machine and the 250 inch all purpose paper machine. Bigness was no problem. Basic drying principles hold regardless of size, and the wide experience Ross Engineers gained by designing and installing the hoods in most of the paper mills in the States and Canada was invaluable in designing the two big hoods for these two Whippany units.

Ross Open and Closed Hoods, regardless of size, can be counted on to promote the highest efficiencies in the system and outstanding economies in the heating up and handling of the huge volumes of air called for in the drying of paper.

THE MIDLAND-ROSS GROUP OF COMPLEMENTING SERVICES

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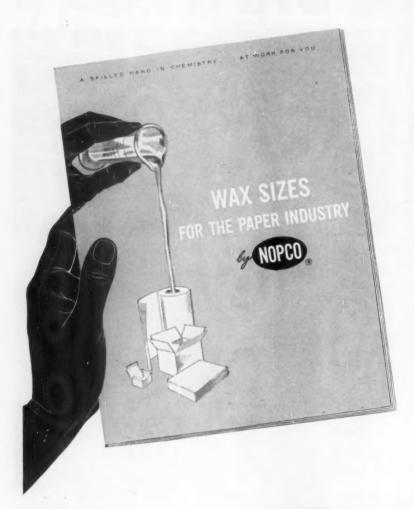
J. O. ROSS ENGINEERING DIVISION

Midland-Ross Corporation

444 Madison Avenue, New York 22, N. Y. ATLANTA • BOSTON • CHICAGO DETROIT • LOS ANGELES • SEATTLE For any size problem

NOPCO WAX SIZES

are your best answer



Whatever type of paper, paperboard or fiberboard you produce, your sizing problems can be lessened by use of a Nopco-developed wax size.

Nopco wax sizes—the result of long and tireless research—assure positive wax retention on the fibers, thorough and even wax distribution through the sheet, high efficiency at low cost. As many as 21 different formulations are available to give your product any combination of properties needed.

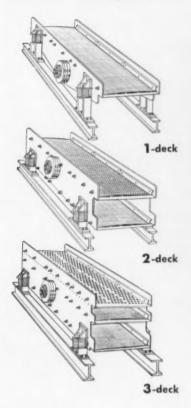
For complete information about Nopco wax sizes, write for your copy of "Wax Sizes for the Paper Industry." Nopco Chemical Company, 60 Park Place, Newark, N.J.

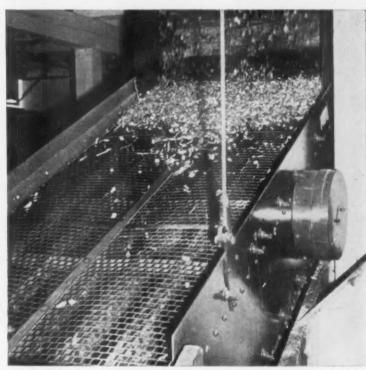


VITAL INGREDIENTS FOR VITAL INDUSTRIES

LINK-BELT Concentric Action Vibrating Screens

for high volume chip cleaning





Link-Belt CA double deck vibrating screen separating oversize chips, slivers and sawdust from wood chips. Note how quickly the chip load is cleared from the top deck,

Vibrating mechanism is grease lubricated and has two high capacity, self-aligning roller bearings. Efficient, frictionless labyrinth seals exclude dirt and abrasive dust. Spring-controlled centrifugal type counter-weight eliminates excessive resonant motion when starting and stopping.

Powerful screens thoroughly separate sawdust and slivers

For speedy, thorough cleaning of chips, the trend is to Link-Belt Concentric Action Vibrating Screens. Circular vibrator motion imparts lively tumbling action which is uniformly distributed across every square inch of the screen deck. The bed stratifies rapidly—every particle is accurately sized . . . slivers and sawdust sharply separated. Low maintenance costs are also winning

preference for CA screens among pulp and paper men.

There's a size for every job—4 to 6 ft. wide by 8 to 14 ft. long, in deck

arrangements as illustrated. Your nearby Link-Belt office has full information. Send for Book 2554. Write for your copy.





14,021-8

VIBRATING SCREENS

LINK-BELT COMPANY: Executive Offices, Prudential Plaza, Chicago 1. To Serve Industry There Are Link-Belt Plants and Sales Offices in All Principal Cities. Export Office, New York 7; Canada, Scarboro (Toronto 13); Australia, Marrickville, N.S.W.; South Africa, Springs. Representatives Throughout the World.

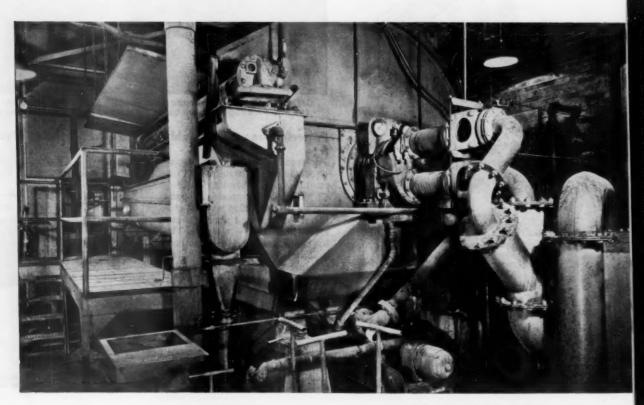
HOW MARATHON MAKES MONEY... FROM A PULP MILL

Chemicals from spent sulfite liquor made in unique plant using Dorr-Oliver equipment

Spent sulfite liquor, the perennial headache of the pulping industry, is a rich source of valuable materials at the Rothschild, Wisconsin, pulp mill operated by the Marathon Division of American Can Company. These materials include vanillin for food flavoring, dispersants for use in rubber manufacture, ceramics and dyeing, as well as a wide range of other products with applications all the way from industrial cleaners to oil well drilling.

To make chemicals from sulfite liquor, a threestage lime precipitation process is used. Initial filtering with an Oliver vacuum rotary filter recovers calcium sulfite, which is recycled to the pulp mill to make cooking acid. Further treatment of the filtrate yields organic acid salts and calcium lignosulfonate, basic raw material for the production of vanillin and various metallic lignosulfonates.

Dorr-Oliver equipment used includes a settling tank for settling out lignin solids in the early stages of the process, a stainless steel continuous rotary filter for removing gypsum after acidification of the organic precipitates and a rotary precoat filter for removing finely divided solids from the effluent after vanillin-making.





Intensive research to develop materials and markets and the use of the most modern processing equipment to give maximum recovery of saleable products, form the basis of Marathon's successful operation. Output of chemicals now amounts to millions of pounds annually.

The Dorr-Oliver equipment used provides just

another example of Dorr-Oliver's ability to meet highly specialized processing requirements. For information on equipment for your particular needs, just drop us a line—or better still, have one of our specialists call on you. No obligation, of course.

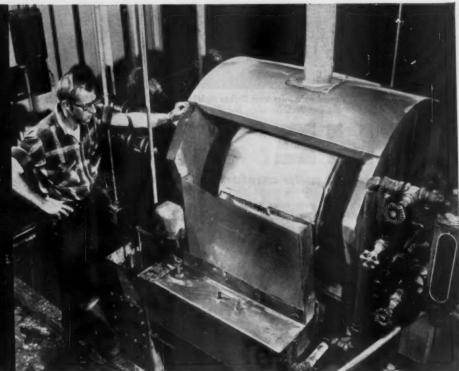
Oliver - Reg T.M. U.S. Pat. Off.



(At left) OLIVER ROTARY PRECOAT FILTER removes finely divided solids and isolates partially desulfonated, purified lignosulfonates from vanillin plant effluent. This type of Oliver filter makes possible continuous filtration of products that would quickly "blind" conventional filters.

(At right) OLIVER STAIN-LESS STEEL ROTARY FIL-TER removes gypsum, obtained after acidifying the organic précipitate, basic calcium lignosulfonate.

The full line of Oliver filters includes types to meet practically all requirements of the chemical processing and paper industries.





On "special assignment" to you: Rayonier's wood pulp sales team (left to right) George E. Durkee; Ted D. Bielfeld; Arthur B. McCormick, Jr.; S. Earll Church; Dan McGillicuddy, Jr.; W. H. Backer; and George B. Creamer.

THE TEAM

to give Rayonier wood pulp customers an edge on their competition

These gentlemen make up Rayonier's wood pulp sales team, ready to depart on their "special assignment" to you. As recently reported, we have a long-term commitment to the paper industry. Our wood pulp sales team, we submit, is additional evidence of Rayonier's purpose: to serve you with quality sulfate pulps—both hardwood and softwood—from our Southeast mills; and with sulfites from the Northwest and Canada...today, tomorrow and during the years ahead.

Our team's first assignment: to help you derive full benefits and profits inherent in our complete line of wood pulps. These men, experts all, know your industry as well as any raw material producer can know an industry he serves. They are strongly supported by Rayonier Research. And at their instant call: our "Technical Service," ready to lend special assistance on our pulps anywhere, any time.

Our team wants more than spot tonnage orders and short-term commitments. We look for repeat orders and long-term relationships that are more rewarding to us — and to you.

This "special assignment" team is another reason why Rayonier wood pulp customers have many an edge on their competition.

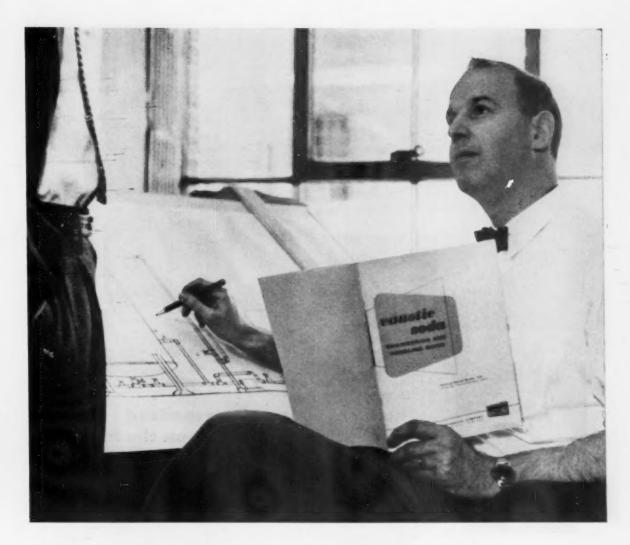
RAYONIER



NATURAL RESOURCES CHEMISTRY

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Mills: Fernandina Beach, Fla.; Jesup, Ga.; Hoquiam, Port Angeles and Shelton, Wash.; Port Alice and Woodfibre, British Columbia.



This HOOKER MANUAL helps you store and handle caustic soda safely

This new manual gives you 40 pages of information and advice on how to handle and store liquid caustic soda safely, efficiently, and with minimum risk of contamination.

Here are some of the contents:

- Large, detailed diagrams of equipment to use in unloading, diluting and storing.
- Commonly used methods for unloading a tank car of liquid

caustic soda, for diluting to different strengths, and for storing.

- A section on safety precautions and first aid.
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- 18 charts, graphs and tables to help you predict and control the behavior of liquid caustic under a wide range of operating conditions. These cover such prop-

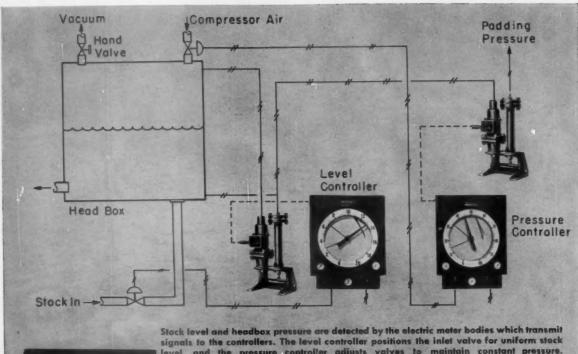
erties as dilution temperature, vapor pressure, viscosity, specific heat, etc.

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Stock level and headbox pressure are detected by the electric meter bodies which transmit signals to the controllers. The level controller positions the inlet valve for uniform stock level, and the pressure controller adjusts valves to maintain constant pressure.

The most accurate pressurized headbox control system on the market

Electronik accuracy gives you better sheet quality

This system combines the accuracy of ElectroniK inductance bridge receivers with the precision of Honeywell valves and electric meter bodies -for a constant flow of furnish to the wire-for uniform basis weight and sheet thickness-for high-speed, top-quality production.

The ElectroniK receivers in this system are accurate within plus or minus 0.25% of scale span. A powerful, sensitive servo drive motor in each instrument positions the pen, pointer, controller, and auxiliary components. The large pointer and scale are easily readable up to 60 feet away. The electric meter bodies instantly transmit stock level and pressure to the receivers. Their accuracy is unaffected by voltage or frequency fluctuations.

Your nearby Honeywell field engineer will give you complete details on this and other control systems for the paper industry. Call him today , . . he's as near as your phone.

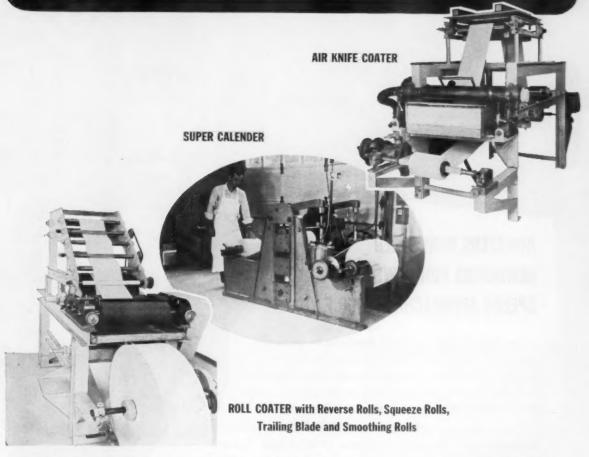
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Honeywell



H First in Controls

Let these machines help find the answers to your PAPER-COATING problems



Georgia Kaolin Company's Sales Service and Research Departments' facilities now include comprehensive modern coating equipment for evaluation of coating raw stock and formulations.

Experimental trial runs on these coaters can provide invaluable information to paper coaters, in addition to saving time and cost of many machine runs at the mill level.

Paper coaters interested in trial runs on

this equipment should write or contact the Paper Coating Department, Georgia Kaolin Company, Elizabeth, N. J.



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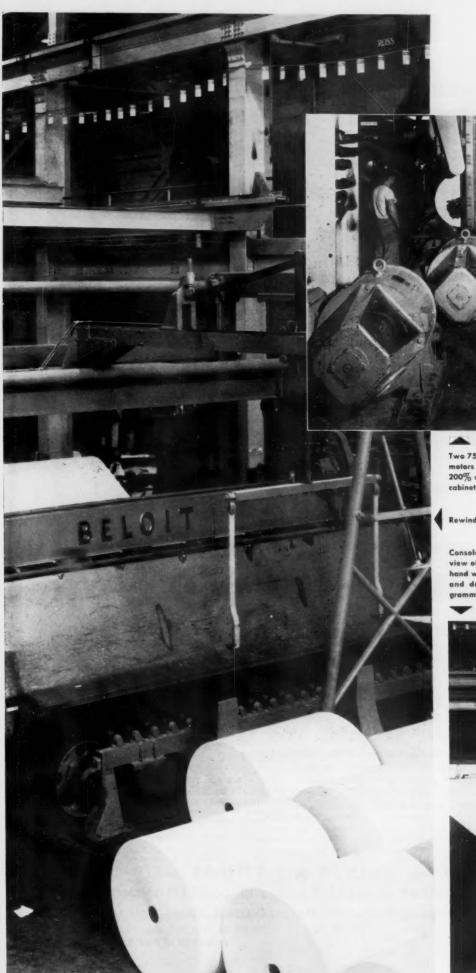
COATING	FILLER** Superwhite	
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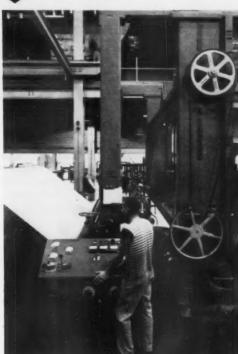




Two 75 hp. d-c. motors drive each rewinder. These motors are capable of momentary overloads of 200% and more. Packaged controls are located in cabinets away from the machine room floor.

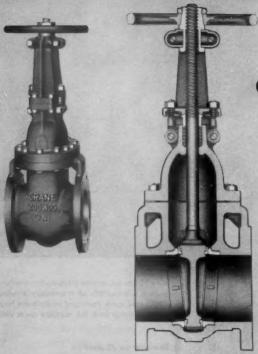
Rewinder on #2 machine.

Console for #2 rewinder gives the operator a clear view of the entire winding operation. A turn of the hand wheel changes winding speeds. Acceleration and deceleration rates are automatically programmed by Reliance electronic regulators.

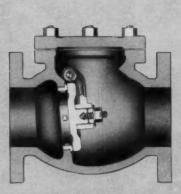


NEW CRANE VALVES FOR PROCESS INDUSTRIES

3% NICKEL ALLOY CAST IRON



Gates and Swing Checks
18-8 SMo (Type 316) Alloy Trimmed



11 SIZES - 2 TO 18 INCHES

Better Corrosion Resistance...Longer Life...on More Fluids

This metal—Crane 3% nickel alloy iron—was developed especially to extend the usefulness and economy of cast iron valves in the process industries.

At but slightly higher cost, Crane 3% nickel iron valves provide substantially better resistance to corrosion than ordinary cast iron, and they have notably higher physical properties. Efficiency is stepped up further with Crane 18-8 SMo (Type 316) stainless steel trim.

Typical Recommended Applications: You will save with these valves—in the petroleum industry, for example—on oils containing traces of mineral acids; in wood-treating processes—on creosote vapors and oils; in pulp and paper mills—on alkaline liquors of various kinds. In general, they should be considered where all-iron or brass-trimmed iron valves are subject to seat corrosion.



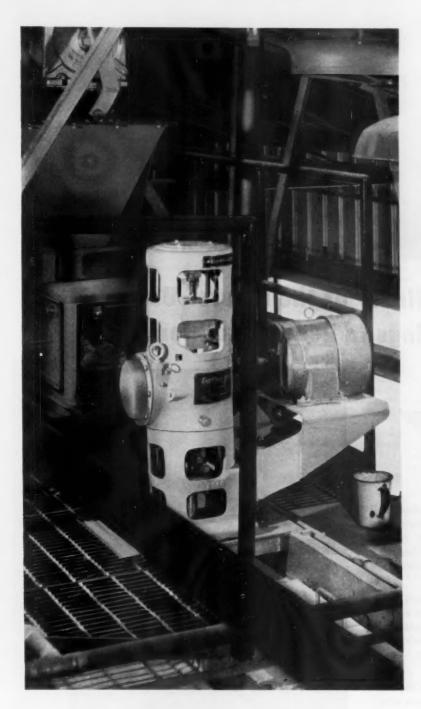
ASK FOR THIS CIRCULAR

Complete technical and specification data on these valves are given in Circular AD-2313. Ask your Crane Representative for a copy, or write to address below.

CRANE VALVES & FITTINGS

PIPE . PLUMBING . KITCHENS . HEATING . AIR CONDITIONING

Since 1855—Crane Co., General Offices: Chicago 5, Ill.—Branches and Wholesalers Serving All Areas



How starch is mixed

in new St. Regis system

Here's the starting point of a continuous 5000-gal./hr. system that feeds starch to the "Seminole Chief," new No. 2 paperboard machine at St. Regis Paper Company, Jacksonville, Fla.

Initial mixing takes place in the tank (left), where a heavy duty turbine-type LIGHTNIN Mixer continuously slurries 1500 lb./hr. of dry starch with water.

Cold starch slurry then goes to two automatic cookers. Cooked starch is pumped to tile storage tanks, from which it is drawn as required. In each storage tank a 10-HP turbine-type LIGHTNIN holds the cooked starch at full uniformity.

Batch cooker

For special starch solutions, a separate batch make-up and cooking tank is employed. In this cooker, illustrated below, a LIGHTNIN slurries the starch, then holds it uniform while cooking takes place. Powerful flow from two flat-blade turbines keeps the thickening starch in constant motion throughout the vessel, preventing gelling or caramelization.

What this means to you

If you are considering a new or revamped starch system or any other mixing operations (stock chests, coatings, etc.), you can count on experienced help from MIXCO engineers.

Correct power for your mixing operation is chosen scientifically from hundreds of standard power-speed combinations ranging up to 500 HP. Selection is based on unique data derived from many thousands of pilot runs, plus successful installations in more than 75 mills. Results are guaranteed.

To get mixing that accurately equates mixer design and horsepower with the exact results you want, call in your LIGHTNIN representative. He's listed in Thomas' Register. Or write us direct.

Lightnin Mixers...

MIXCO fluid mixing specialists

WHAT MIXING OPERATIONS are important to you? You'll find a wealth of information on fluid mixing in these helpful bulletins describing LIGHTNIN Mixers:

- Top or bottom entering; turbine, paddle, and propeller types: 1 to 500 HP (B-102).
- Top entering; propeller types: ¼ to 3 HP (B-103).
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- Condensed catalog showing all types (B-109)
 - Quick-change rotary me-chanical seals for pressure
- and vacuum mixing (B-111) Data sheet for figuring mixer
- requirements (B-107) Paper stock mixing data
- ☐ Technical reprints covering paper mill mixing applications

Check, clip and mail with your name, title, company address to:

MIXING EQUIPMENT Co., Inc., 141-h Mt. Read Blvd., Rochester 11, N.Y. In Canada: Greey Mixing Equipment, Ltd., 100 Miranda Ave., Toronto 10, Ontario

Starch goes to batch cooker equipped with a slow-speed turbine-type LIGHTNIN Mixer.





A plant built on the philosophy of "don't accept anything at face value"...

Tidewater's "Refinery of the Future" Uses 471 Fast's Couplings to Reduce Maintenance

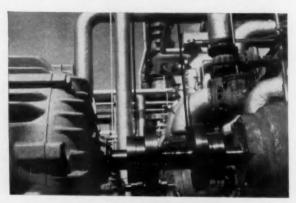


IN PLANNING Tidewater's Delaware Refinery, all equipment purchases were examined from every angle . . . capital investment, manpower, maintenance and reliability. Fast's Self-Aligning Couplings were used throughout because they met Tidewater's exacting demands.

Tidewater's equipment design policies were established by survey teams that visited refineries all over the country. They carefully appraised each plant and asked operators what improvements they would make and what features they would retain if they were to redesign their drives.

In 471 applications at this refinery, Fast's Couplings guarantee mechanical flexibility that eliminates costly shutdowns and expensive shaft replacements. Fast's bave the reputation of frequently outlasting the equipment they connect. This means savings in maintenance and down-time . . . in addition to protecting costly equipment against errors of alignment.

Nearly 40 years of coupling experience qualifies Koppers to solve *your* coupling problem. Write today for full details to: KOPPERS COMPANY, INC., Fast's Coupling Dept., 2708 Scott Street, Baltimore 3, Md.



Fast's Couplings give dependable, trouble-free service throughout Tidewater's entire production facilities.



This Fast's Coupling drives a pump delivering heavy naptha to the Solutizing plant.

Engineered Products
Sold with Service



THE ORIGINAL

FAST'S Couplings

NEW from Standard Oil

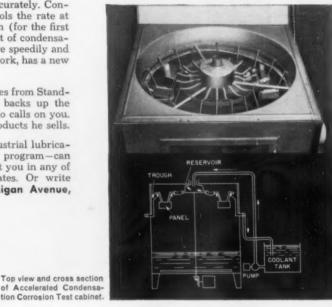
Corrosion steals \$5.5 billion from industry annually. Standard Oil is in the forefront of the fight to control this loss. Standard's research scientists have developed a new method for measuring the effectiveness of rust preventives. This new test takes less than one-twentieth of the time of previous tests—and is about three times as precise.

Using a controlled humidity cabinet for testing corrosion, these Standard research men installed a system for cooling metal test panels (previously treated with rust preventive) so that their surface temperatures are lower than the temperature in the cabinet. Temperatures of panel surfaces and of cabinet atmosphere are held accurately. Controlling the temperature of the panels controls the rate at which water condenses on them. This in turn (for the first time) permits accurate control of the amount of condensation on the panels. Rust preventives are more speedily and precisely tested. Science, as a result of this work, has a new tool with which to test corrosion.

This is the research pay-out industry receives from Standard Oil. This is the something extra that backs up the Standard industrial lubrication specialist who calls on you. This is the something extra found in the products he sells.

To know more about how Standard Oil industrial lubrication specialists—and Standard's research program—can help you, call the Standard Oil office nearest you in any of the 15 Midwest and Rocky Mountain states. Or write Standard Oil Company, 910 South Michigan Avenue, Chicago 80, Illinois.

THE MAGIC BOX



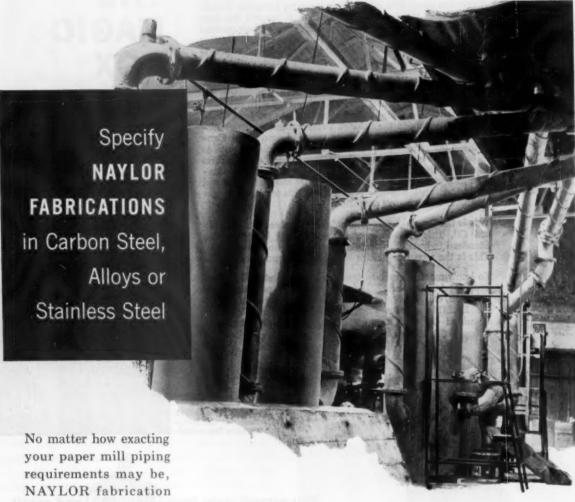
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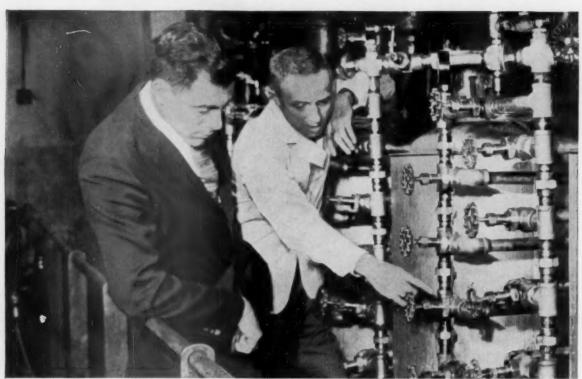
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Joseph Smindak (right), Plant Engineer, Coffee Instants, Inc., Flushing, N.Y. Left, Michael De Piano, N.Y. representative, Cooper Alloy Corp. Foreground, Cooper Alloy 1" stainless Union Bonnet Globe Valves.

SMINDAK of COFFEE INSTANTS, INC.

Tells why he specifies Cooper Alloy for stainless steel valves and fittings

Q. Mr. Smindak, why does Coffee Instants, one of the nation's leading instant coffee processors, use stainless valves and fittings in processing their product?

A. To protect product purity, a must with us as with most other food processors. Contact with other metals can degrade flavor and aroma; stainless steel does not.

Q. Why Cooper Alloy?

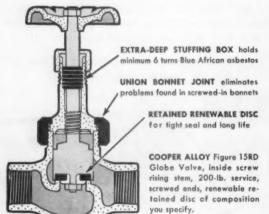
A. Because of the special Cooper Alloy construction features I find combined in no other brand. On these Cooper Alloy union bonnet globe valves, for example,

we like the ease of operation and the low maintenance; the fact that it removes a threaded joint from product contact; and in particular, the extra-deep square-compression stuffing box which reduces maintenance, gives a tighter seal at stem. Then too, the excellent service we get from Cooper Alloy sales people and distributors.

Q. You don't find these features in any competing valve?
A. Frankly, not one has them all. That's why, for our stainless valves and fittings, we insist on Cooper Alloy.

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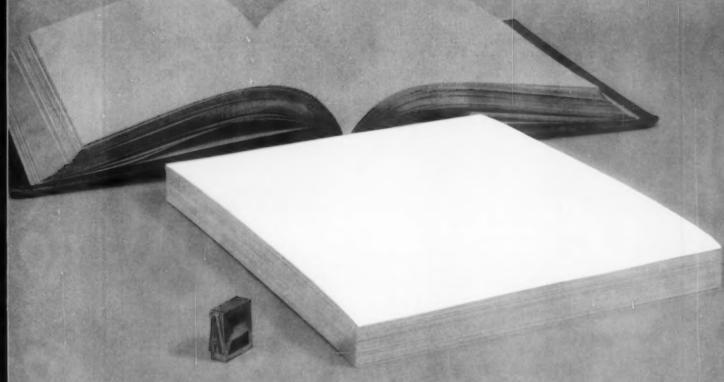


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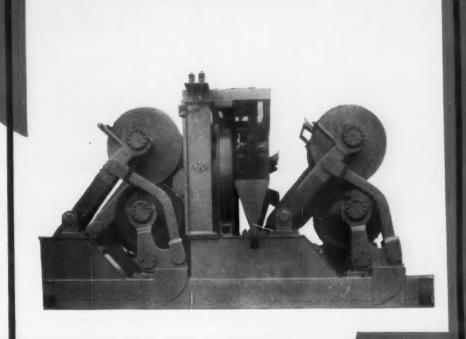
Pulp man F. B. Hale of Lake Wales, Florida, makes it his business to walk right into swampy areas such as this to get his logs. With two six-man crews and two Oliver crawler tractors he cuts pine and hardwoods, snakes out the logs, cuts them into pulpwood lengths and loads nine freight cars (162 cords) a week.

His two sizes of Oliver tractors (60 h.p. and 28 h.p.) are the perfect combination for versatility and mobility under all conditions. And Oliver's dependable performance protects his profits even in marshy ground where much of his work is done. His maintenance costs for both Olivers for a full 12-month period: \$18.00!

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Oliver OC-12 crawler—60 h.p. diesel tractor. Power-Turn steering means full power on both tracks at all times, even on the sharpest turns. Speeds range from 1.60 to 5.27 m.p.h. The OC-12 gives you the lowest operating costs of any tractor of this size.

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HOW DO YOU WANT TO FEED A FLUME?



CUMBERLAND CORP., Burnside, Kentucky, uses its Lorain with a pulpwood grapple to feed a flume from a mountain of jackstrawed logs.

St. MARYS KRAFT CORP., New York City, employs its Lorain gantry rake in their yard at St. Marys, Ga., to unload wood from rack cars directly into the flume. Lorain Rakes can unload cars in a little over 8 minutes each. Cars move in and out of yard quickly, cutting demurrage. Excellent visibility and precise control of the "board" eliminate damage to cars, minimize spillage.

Do you use a pulpwood grapple to feed your mill from blockpiles of "jackstrawed" pulpwood? Or, do you unload each car directly to the flume?

No matter how you speed up your production schedule, there is a Lorain Crane—either as a standard machine or a specifically designed pulpwood handling tool—for the job.

Lorains on crawlers in 7 to 60 tons capacities are ideal for blockpile work. Rubber-tire Lorains up to 75 tons can scamper quickly around the mill, concentration yards or woods to wherever needed. And special Lorain pulpwood handling tools like the Lorain Rake can be engineered for your specific work.

And these exclusive Lorain features can add further to efficiency—2-lever, "Joy-Stick" air controls for less operator fatigue, greater production; "Shear-Ball" turntable mounting to eliminate the

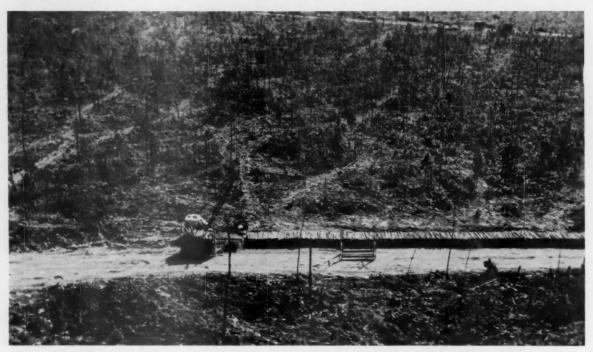
maintenance and adjustment problems of oldstyle mountings; and the new Lorain squaretubular-chord boom that is lighter, stronger permits greater payloads, longer reaches.

If you handle pulpwood, you need Lorains. See your nearby Thew-Lorain Distributor for the full story—and have him tell you about the on-the-spot Lorain parts and service facilities that are such a plus value when you buy Lorain.

THE THEW SHOVEL CO., LORAIN, OHIO



Pulpwood Section



LOGGING IN THE BAHAMAS . . . Stacked at edge of main artery into woods, pulpwood is loaded into big pallets by crane. These shorter roads lead to main road every 1600 feet. In first major logging operation in these British islands, it takes . . .

Giants and River Boats Move Wood

In the Grand Bahamas, specially designed pulpwood trailers and pallets are used. A floating community is essential to a fascinating job.

 Owens-Illinois has invented a new term in pulpwood moving—"amphibious logging"—and it is going about it with a vengeance in the Grand Bahamas Islands off the southern coast of Florida.

Today, it is moving 3600 tons of pulpwood a month from the Grand Bahamas, up the Gulf Stream 300 miles to Jacksonville and the pulpwood yard of its National Container division. The unique operation is not without drama for it features everything from a paddlewheel "river queen" dating back to Teddy Roosevelt's era to Bunyonesque pulpwood machines capable of moving 12 cords of wood at a time.

The story of this intriguing woods operation goes back to 1955, when National Container Corp. acquired the cutting rights on some 300,000 acres of British-owned pine in the Bahamas. National Container merged with Owens-Illinois Glass Co. a year later.

Moving this wood was not without its problems. The "pine barrens," as they are called in the Islands, are 75 miles east of West End, popular vacation resort of the Bahamas and the island's major community. There were no roads in the forests, no piers to load from and no living quarters for the workers. And there was no power. The closest community was Riding Point, on the coast.

"Do-It-Yourself" Community

First order of business was housing and Owens-Illinois set up a kind of do-it-yourself community known as "The Gap" at the edge of the forest. Here most of the labor built its homes and power was brought in. This, too, is where the Robert Fulton, a onetime cruise ship on the Hudson River from New York to Albany, entered the picture. Built in 1903, the paddlewheeler was destined for the scrap yard when National Container bought her and towed her down to Jacksonville. There the 30-ft, wheels and three big stacks were removed and she was converted into a floating community center with a lounge, dining salon, TV room and movie theater.

Now featuring a doctor's office, school for laborers' children, a snack bar and laundry and living quarters for supervisory personnel, the Fulton is piered at Riding Point and serves many purposes. Among them: Maintenance and repair facilities, spare parts for the fleet of heavy equipment used in the Islands operation, generators for power.

Custom-Made Carriers

In order to make this venture profitable, the company next realized it would need big machines to move a heavy volume of pulpwood—bigger machines than had ever before been used to haul pulpwood in the South. R. G. LeTourneau, Inc. long a specialist in giant machinery, produced the pulpwood trucks to specification. The pallets alone weigh two tons empty and will hold 12 cords of pulpwood. LeTourneau straddle-carriers with motor-driven wheels carry the pallets out of the woods to the pier at Riding Point. Here a huge forklift takes over for the loading operation.

To get the wood out, Owens-Illinois foresters devised a cutting plan. Roads were sliced into the timberland every 1600 feet, with arteries snaking back into the woods 400 feet at intervals on both sides of the roads. Using these smaller side roads as the center of cutting operations, eight man crews were assigned to a square 800 feet on either side of these shorter roads. Thus eight men work an area of about 640,000 square feet. Each crew features a cutter, with a chain saw, a tractor driver who drags the trees from the woods, a "hooker" who



DWARFED BY PALLETS, Ed Kjer (left) gen. mgr. at Riding Point, Bahamas, and Forester Jay Wise, show big equipment to local girl.



IN STRANGE SETTING, onetime "river queen" S.S. Robert Fulton sits quietly in its pier at Riding Point in the Bahamas. The former Hudson River pleasure boat serves as lounge, infirmary, school, general store, laundry and repair shop.



LIFTING 40 TONS OF WOOD AND STEEL, giant LeTourneau forklift truck at pier in Riding Point is used to load pallets on converted Navy landing craft for sea trip.



MOVING SLOWLY OUT OF WOODS, big six-wheel LeTourneau straddle carrier hauls fully-loaded pallet to pier. These specially-designed trucks have motor-driven wheels.

PULP & PAPER

Pulpwood Section

attaches the trees to the tractor, a man at the loading ramp who cuts up felled trees into eight-foot lengths and four pallet loaders. At present, 18 crews are moving better than 2,000 cords of wood a week out of the Bahamas wilderness.

LeTourneau straddle-carriers squat down over the loaded pallets and move them out to the pier. The slowly moving carriers can make up to two

trips an hour.

Retired Landing Craft Plays Part

At Riding Point, the pallets are loaded onto a converted Navy landing craft for the long voyage to Florida. The William L, a new 65 ft. tug, pulls the loaded landing craft 30 miles into the Gulf Stream where, five times a month, a sea-going tug, the Linden, makes the 300-mile haul up the Gulf Stream to Jacksonville.

Regeneration-minded foresters precede the cutting operations as in the U.S., marking the best seed trees to insure reforestation. If its present cutting rate continues, crews will work the Grand Bahamas Island for about two years, then move on to the next scene of operations, Abaco Island, 65 miles east of Grand Bahama. Although this operation was not without its problems, Owens-Illinois seems to have the situation well in hand. They are not only tapping a new source of pulpwood, but they are giving their Southern woodlands a well-earned and essential breather in the bargain.

Serious Beetle Situation In East Texas Forests

A serious Southern pine beetle situation is developing rapidly in the Big Thicket area of southeast Texas, involving at least 65,000 acres in Hardin County, says U. S. Forest Experiment Station in New Orleans. In the last decade, most Southern pine beetle trouble has occurred in this region and in north-central Alabama and southwest Mississippi. Epidemics have come and gone in these areas, and new outbreaks have threatened almost constantly. At the moment, the beetle's worst threat is in Texas, other Midsouth infestations having reached a comparatively low level. An unusually cold winter killed large numbers of the beetles in northern Alabama, and controls were effective elsewhere in Louisiana and Missis-

Early summer floods in east Texas,

Louisiana, and nearby states have made forests more susceptible to black turpentine beetle attack. The beetles have been active in many flatwoods forests logged the past winter.

Severe and repeated defoliation of young pines by the red-headed pine sawfly has been widespread, and control has been necessary in some instances. A black-headed sawfly, heretofore unreported in the South, defoliated shortleaf pines in several states, but natural enemies appear to have brought it under control.

German Foresters See USFS Forests But Not Industry's

The top executive of the West German Republic's Forest Service has been making an extensive tour of the United States, but with little or no chance to see any private forestry particularly what the major pulp and paper companies are doing on their forest lands.

Walter Mann, ministerial director of the West German Forest Service, was making his entire trip in the escort of U. S. Forest Service officials, and reports we received were that he and his associates were transferred from one U. S. Forest Service region to another, with local USFS officials taking over at the "borders" of each region. Transportation was by USFS planes and automobiles.

The trip was for four weeks, including most of the national parks and forests, through the South and Pacific Northwest particularly, and ending up at the U. S. Forest Products Laboratory, Madison, Wis.

Only Camp of Kind Held by Dryden Paper Co.

Only camp of its kind in Canada was held in June for the second annual time at Dryden Paper Co., Ltd.'s depot camp at Contact Bay, Ont. This is a high school conservation camp, sponsored by the Dryden firm, with instructors from the Ontario Department of Lands and Forests, Ontario Department of Agriculture, Ontario Hydro Electric Power Commission, Canadian and Ontario Forestry Assns., and the high school board. All instructions were given "in the field." Wise use of water, soil, trees and wildlife was the theme.

Revise Chip and Slab Use Data Upward

Editor: In our article "Is Pulpwood Going to Chips?", published in your May issue, p. 121, some errors have come to light in our original text. These errors are restricted to tables 1, 2 and 4 and we would appreciate your readers making changes in their copy.

W. S. Bromley, Executive Secretary American Pulpwood Assn.

The Corrections:

TABLE NO. 2—Comparison with Total Receipts of All Classes of Pulpwood in 1957—The "Total Chips, Slabs, etc." figure should read 4,332,921 cords instead of 4,253,967 cords.

TABLE NO. 4—Current & Potential—In the "Received 1957" column; "Roundwood; i.e., bolts, logs" the figure should read 31,450,000 cords and 88% instead of 35,783,000 cords and 89%. "Chips, Slabs, etc." percentage should be 12% instead of 11%. "Total" should be 35,783,000 cords instead of 40,116,000 cords.

"Increase by Class of Wood" column—change "Roundwood" figure to 13,588,400 cords instead of 9,255,000 cords. The "Chips, Slabs" figure should read 3,428,600 cords instead of 3,429,000 cords. The "TOTAL" figure changes to 17,017,000 cords instead of 12,684,000 cords.

Lodgepole May Make Poor Sites Productive

Lodgepole pine offers possibilities for making poor sites productive. This would be in the combined role of a cash crop and as a conditioning forerunner for establishing tree stands of more desirable species. These prospects have been disclosed by research at Oregon State College.

Lodgepole, a species native to both low and high-rainfall areas, planted on foothill sites which were unable to support other commercial forest plantings exceed 90 per cent survival and in five years attained heights of 5 to 7 ft. according to George Barnes, forest management professor at Oregon State. He says penetration of pine roots into the dense clay soils of some sites may clear the way for Douglas fir survival.

The foresters believe the Christmas tree trade is the main economic opportunity for lodgepole pine in the interior valleys. This species grows naturally at low elevations on the Pacific shore and at high elevations—up to 6,000 feet—east of the Cascade mountains.

Chemical Spraying Savings Are Big

- 1. Insect sprays increase pulp output.
- A 12% gamma BHC controls insects, in jackpine yield of peeled wood increases.
- 3. Economics show 95% saving in treated woods.
- Spraying for weed control on roads and yards also may result in savings in fire control.

• Dr. Truman A. Pascoe, manager, research dept., Nekoosa-Edwards Paper Co., advises PULP & PAPER that the calculated saving made as a result of an insect spraying program carried out in his company's partially owned subsidiary, Tomahawk Timber Co. is \$18,107. Over a period of seven years the total cost of this cooperative work with the University of Wisconsin, Entomology Department, and a lumber company was \$16,700.

A report he and associates made on spraying of jackpine is revealing, as regards important savings that can be made. Greater pulp yields from sprayed wood resulted.

As a result of insect spraying of jackpine, treated wood showed a 2.8% gain in pulp production on a weight basis. In peeled wood there is a 4.6% gain shown.

A Report on Spraying Jackpine

Prof. R. D. Shenefelt and M. J. Stelzer of the University of Wisconsin, Dr. Pascoe and F. G. Kilp, Woodlands Mgr., Nekoosa Edwards Paper Co., recently reported that:

Control of insects attacking logs can be readily obtained by means of sprays applied just after cutting. The importance of the financial aspect is selfevident. When the millions of cords of pulpwood cut each year are considered, a penny gained or lost per cord involves a large sum of money and it is as important to know when not to spray as to know when to treat. Insect damage in pulpwood varies with the season of cutting, the method of handling the cut logs, the place of storage, the locality, the weather conditions, the species of tree being cut and the size of the sticks. For these reasons the results are to be regarded as indicative only, and comparable tests must be made in different localities and on the different tree types in order to obtain accurate costs and benefits.

"To determine the economic feasibility of spraying for control of insects on jackpine, an area near Ely, Minn., with a stand of jackpine of approximately the same age class, stocking and size was chosen. The jackpine cut for experimental purposes was divided into three lots: 1) peeled, 2) rough-untreated (control), and 3) rough-treated. The cutting for each category was along separate "roads" in the area. Peeled wood was cut from April to July before peeling became impractical. Rough wood used was cut from July 11 to August 18, at which time infestation by wood borers and bark beetles had ceased in the area. In cutting the rough wood, one crew operated in the usual manner and a second crew followed the same procedure, except that they sprayed the logs the day they were cut. A 12% gamma BHC wettable powder was applied by an Indian fire pump with an adjustable (Mohawk) nozzle. Approximately one ounce of gamma isomer in one gallon of water was to be applied per cord. Throughout the entire operation scaling was done as closely as possible.

How It Is Done

"Time studies showed that the most efficient method was to spray each layer of logs as they were piled in the deck and then treat the ends at quitting time. This method required about five minutes per cord for the actual spraying. Water supply was difficult to obtain, and it was often

necessary for the cutters to transport the water with them from camp in the morning. At times, swamp water was used.

"Tests made on infested wood which had been cut during March and April again demonstrated the necessity for protective treatment and failure to obtain any significant reduction in insect numbers by spraying after infestation.

"Examinations of sprayed and unsprayed wood were made at weekly intervals during the experimental period and the numbers and types of attacks recorded on a square foot basis. By August 1, rough-untreated wood cut July 11 to 15 had 17.57 insect attacks per sq. ft., while sprayed wood cut at the same time had 0.28 attacks—a reduction of 98.4%.

"Examinations made in August, of 200 logs each of rough-treated and rough-untreated wood showed the following percentage reductions in the treated as compared to the untreated: bark beetles 71.4%; Buprestids 4.2%; Cerambycids 97.2%; total insect attacks 81.5%; blue stain 41.4%; surface decay 38.9%.

"The foregoing results were from a modest sized commercial trial made in the summer of 1956. This test provided basic figures for costs and savings.

"The summer of 1957, a large scale test was made involving 26,600 cords of wood sprayed. It was the savings realized from this commercial use of previous research information that more than paid for the whole cooperative research program.

"Taking the price of a cord of rough Minnesota jackpine delivered to the mill as \$26.94, which appears to be a reasonable figure for the Wis-

EXAMINING FOR IN-SECT SPRAY RESULTS in Nekoosa-Edwards woodyard. Dr. Truman A. Pascoe, manager, research dept., for Nepco (right) has been active in spearheading Wisconsin research in this field.



PULP & PAPER

Pulpwood Section

consin mills, the monetary loss for Cerambycid attack, based on the 0.0059 per cent loss per attack is \$0.0016. By multiplying the number of attacks per cord by the loss per attack it is possible to calculate the loss per cord. On the basis of the cost per cord used, these are \$0.26 and \$1.01 per cord for the rough-treated and rough-untreated woods, respectively, or a saving of \$0.75 per cord by treatment.

"Actually, during treatment (largely as a result of improvement of method of application), 0.71 ounces of gamma isomer were applied per cord instead of the one ounce planned for originally. The total cost of material used (excepting spraying equipment and cost of water procurement) and wages paid to the cutters for spraying (15¢ per cord) came to \$0.24 per cord. This left a net gain from treating of \$0.51 per cord.

"Comparable methods can be used to calculate the relative costs of wood produced by peeling or by different methods of handling.

"Attention should be called to the fact that the insect population in the untreated wood in 1956 was less than occurs in normal years. The \$0.51 net gain per cord from treating should probably be regarded as minimum.

"As a direct result of the demonstration of the practicality of spraying pulp logs for insect control and the benefits derived therefrom, two large users of jackpine in the Lake States have started spraying all wood which is cut during the season of insect activity or stored in the woods during that period. Decks established before insect activity begins are sprayed be-

fore the insects become active. Here the spray is applied to the outside and tops of the piles, with care being taken to get the spray as far as feasible on the logs from the end openings. Wood cut during the season of insect activity is sprayed as it is decked the day of cutting."

Also Savings in Fire Control

E. I duPont deNemours & Co., in another report, discloses big savings made in fire control and in pulpwood storage yards by use of chemical herbicides.

Chemical herbicides may mean substantial savings in time and money for fire control, according to studies of weed control in forest firelanes and pulpwood storage yards in Wisconsin, Minnesota and Michigan.

Vigorous growth of grass and weeds in such areas constitutes a serious hazard, especially during the dry period in late summer and early fall.

Mowing, disking or digging, produce temporary results, but actually till the ground for more vegetation, and late summer rain may bring more growth.

For a number of years, these firelanes have been kept temporarily free of growth by mechanical disking at an annual cost of about \$25 per acre.

J. E. Kuntz and A. J. Riker of the University of Wisconsin, after testing various herbicides, especially long-lasting "soil sterilants," report that up to five years' control of most annual weeds has been obtained with monuron or diuron applied at rates of 20 to 40 lbs. per acre at an annual cost of \$12 to \$16 per acre. (Details reported in Research Reports of the

North Central Weed Control Conference 1950-56 and the University of Wisconsin Forest Research Notes,)

The investigators say: "There is little question concerning the ease and speed with which chemicals can be applied as compared with laborious mechanical methods. If the initial cost of chemicals can be pro-rated over several years, then practical applications seem close at hand."

Tests in Wisconsin pulpwood storage yards began in 1953 under direction of Dr. Kuntz and Dr. Riker, says a Du Pont Co. report.

The yards are usually adjacent to rivers, dams, or ponds, and weed growth was dense and vigorous. Diuron proved the only chemical which gave good initial control with little regrowth after three years. It was used at rates of 45 and 60 lbs. per acre.

Because of the values involved in stored pulpwood, effective weed control is a good investment. It is possible to reduce the chemical rates in subsequent applications.

The Northwest Paper Co., Cloquet, Minn., started weed control trials in their storage yards in 1954. Results were so successful they embarked on a long range weed control program in 1955, using "Telvar" W weed killer at 40 lbs. per acre. Control from the initial treatment has extended into the third season—making an annual cost for the chemical of \$40 per acre, plus the original cost of application. Similar results with diuron have been obtained on experimental plots by Nekoosa-Edwards Paper Co., Port Edwards, Wis.

Monuron is identified commercially as "Telvar" W weed killer and diuron as "Telvar" DW weed killer. Both are 80% wettable powders, to be mixed with water for spraying. They have been applied at the rate of 200 gals. per acre.



SPRAYING FOR WEED CONTROL ON NEKOOSA-EDWARDS TEST PLOT. In this picture, plot is shown in second season after spraying with Telvar DW weed killer. Chemical herbicides reduce fire hazards.



FOREST ROAD NEAR PORT EDWARDS, WIS. This picture was taken 18 months after spraying with Telvar W weed killer for fire protection. This is a Nekoosa-Edwards Paper Co. forest road.



AN ESSENTIAL MANAGEMENT TOOL . . . Weyerhaeuser plane cruising over company's St. Helens Tree Farm in southwestern Washington. Mt. St. Helens in background.

How Weyerhaeuser Uses Plane and Camera

Many ways in which both serve . . . advantages of color photos

• Use of the airplane as an effective forest management tool is accepted as an essential by Weyerhaeuser Timber Co. Its own forestry plane comes in for varied specialty functions, each an important factor in its program of protecting and growing more and better forest crops.

Specific applications range from planning "artificial reseeding" with helicopters to "zeroing in on a fire." The company's internal publication, Weyerhaeuser Magazine, recently reported on the effective aid a plane provides for forest management.

A summer lightning storm can turn a dozen trees located miles apart into flaming torches in a matter of minutes. From the air it's possible to spot these fires with great speed. Airto-ground radio tells fire fighters exactly where to go and how to get there. The plane can drop needed supplies at the scene.

Insects-some no larger that the head of a pin-kill thousands of valuable trees each year. A trained forester can spot infested areas from a low-flying plane. He will outline these areas on maps for use by branch foresters and woods superintendents. If damage is severe he may fly these men over the area in question, giving them a first hand look to guide their planning. "Sanitation logging"— quick removal of infested trees—can prevent the fast-breeding pests from spreading.

Winter storms blow down many trees. Such windfalls become breeding grounds for insects which later move into standing timber as their numbers increase. If spotted during an aerial survey, such "down" timber can usually be salvaged.

Often a flying forester will spot patches where brush and fast-growing weed trees are crowding out the slower developing crop varities. He's likely to recommend aerial spraying with brush-killing chemicals that will not harm the crop species.

Good Camera Important

For forestry use, perhaps the most valuable accessory to a good airplane is a good camera. With such equipment the airborne forester can photograph section after section of remote timberlands. Maps composed of photographs pieced together (aerial mosaics) covering many square miles of tree farm area can be made. Each hill, valley, and mountain ridge can be charted.

On such maps and aerial photographs overall land management plans can be plotted. Logging engineers and road builders can lay out "settings" and plan access routes. Reforestation and land acquisition programs can be

Weyerhaeuser has practiced aerial forestry for some time. The company's forester in charge of aerial surveys is Paul Lauterbach. Its forester-pilot is Bob Chapman. The pair are based at Centralia, Wash., and their services are available to all company branches in the Northwest.

Color Photography is New Tool . . .

Newest innovation the foresters have been using is aerial color photography. It is a new tool to aid in planning attacks against insects plaguing western tree farmers. Pictures in color help locate and record mortality caused by the deadly Douglas fir beetle and balsam woolly aphid.

Studies underway in Weyerhaeuser's Millicoma Tree Farm in southwestern Oregon have shown the advantages in accuracy and efficiency of color over black-and-white film. Mr. Lauterbach reports that savings in interpretation and field time by using color photos at least equalize

the higher costs.

Color photos are being used to help locate and lay out logging settings. With them, an accurate count of insect-killed trees can be made in less than one-hundreth the time required with a 100% ground tally method. It is also helpful in locating bear damage and, in some cases, trespass.



THE PLANE AND PHOTO EQUIPMENT . . . Paul Lauterbach, forester in charge of aerial surveys, displays WTCo's 4-place Cessna 170 and equipment consisting of k-17B camera equipped with f-5.0 12-in. aerostigmat lens, A-11 camera mount, B-7 intervalvometer and cable, F-5 vertical view finder, Auxilliaries include 6-in. lens for low-level work, 24-in. for high-level. All camera equipment is government surplus.



SPOTTING BUG-INFESTED AREAS . . . Equipped with colored pencils Mr. Lauterbach marks insect damage areas on map while flying over tree farm.

Major Use in Reforestation

Overall, the most important use of aerial reconnaissance and aerial photography is to make field foresters work more effective. Mile after mile of remote forestland can be accurately and quickly surveyed. The finished photographs enable foresters to plan their reforestation work more quickly; they can see areas needing ground scarification or brush spraying; they can recommend logging settings. With a stereoscope or 3-D

viewer timber types, volumes and ages can be determined and mapped to assist the forester in formulating forest management plans and inventorying stands of timber.

Weyerhaeuser does not have its own photographic lab, nor does it do extensive aerial photography of its own. Big jobs are usually contracted out to professional aerial photographers. It does its own survey work, but farms out the developing and printing of pictures.

Automatic Telegraph Relay for MacMillan Operations

To speed the flow of communications between various operating centers, MacMillan & Bloedel, Ltd., Vancouver, has installed one of the first automatic telegraph relay systems to be introduced in the forest industry. M&B operates logging camps, sawmills, plywood plants, pulp mills and sales offices in several locations in British Columbia, with a sales outlet in Portland, Ore. It is known as a Plan 111-B switching center. From 22 teletype stations on Vancouver Island and the mainland of B.C., teletype messages flow into the switching center at the company's new head office building in Vancouver. These combined circuits, inter-connecting automatic teletypes in the new integrated system handle an average of 1,000 messages a day. Operators at any one of the outlying centers may type their messages at any speed and they are automatically transmitted at the rate of 60 to 70 words a minute into the company's system for relay as required.

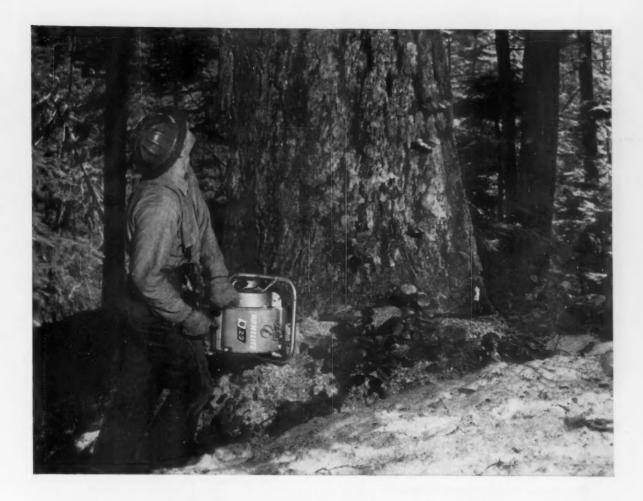
\$250,000 State Nursery

The state of Washington dedicated a new forest tree nursery near Olympia June 18. It was named in honor of L. T. "Mike" Webster, superviser of the department of natural resources. The 80-acre nursery cost \$250,000 and will provide seedlings for reforesting state, federal and private land.





MAPS MADE WITH AIR PHOTOS . . . Bob Chapman, forester-pilot, pasting photos together into accurate aerial mosaic, at left. At right, transferring results of aerial survey to management strip map.



Homelite 8-29 makes cutting 4 ways faster and easier

The Homelite 8-29 chain saw — most powerful one-man chain saw you can own — lets you cut more wood faster and easier four important ways:

1./CUTS FASTER because a brand-new belt drive carries all the power to the chain. Greater number of teeth on belt and sprocket reduces tooth load; reduces wear; gives long, trouble-free service life. Smooth-performing belt transmission requires no lubrication, is slip-proof.

2./CUTS EASIER with less vibration and operator fatigue because built-in, automatic, rotary, self-lubricating governor keeps engine running at proper speed, prevents racing or excessive wear. Balanced 29 pounds* lets you cut longer with less strain and effort.

3./CUTS MORE WOOD because new crankshaft permits close coupling of rotary intake valve and governor, allows full power to be used. Large, double row ball bearing on clutch end and needle bearings on magneto end support crankshaft with minimum of friction and heat.

4./CUTS EVERYTHING up to 10 feet in diameter. Famous Homelite high-compression, short-stroke engine gets its power from most advanced cylinder design. Large cooling fins provide 12% more cooling area . . . shorter piston stroke cuts wasteful friction, increases engine life, reduces gas consumption.

See for yourself in a free demonstration how the Homelite 8-29 helps you cut more wood faster these four ways. See your nearest Homelite dealer today.

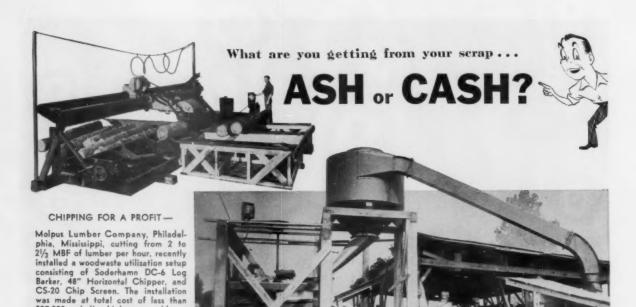
*less bar and chain



Manufacturers of carryable pumps, generators, chain saws, blowers

HOMELITE

A DIVISION OF TEXTRON INC.
7708 RIVERDALE AVENUE, PORT CHESTER, NEW YORK



type gondola car. Mr. Molpus says of this installation, "We believe this is the lowest cost barker-chipper-screen installation on the market, and it should pay for itself within one and one-half to two years."

\$27,000 excluding high pressure blower system to blow chips 620 ft. to open

you're burning waste - slabs, edgings, trimmings - you're missing out on real profits. Here's a minimum-investment installation that will make you

\$13,578 to \$55,515 profits annually - depending on size of your mill!

A woodwaste utilization installation is no longer just for the "big boys" - this new Soderhamn combination will put you "in the chips!" Efficient, clean barking and chipping ... accurate, dependable screening - all to most rigid pulp mills' specifications.

TOTAL INVESTMENT LESS THAN \$25,000

This is actually the lowest price heavy duty installation on the market. Three precision Soderhamn machines, designed for long life and economical, dependable operation ... minimum labor, minimum horsepower requirements, minimum maintenance. You can't go wrong with Soderhamn - the line that is setting new standards for the industry.

· Soderhamn also makes the lowest cost rotor barker on the market, considering installation and labor costs.

NEW DC-6 LOG BARKER. Will handle efficiently logs from 5" to 36" diam., 6' to 22' long. Production up to 45,000 bd. ft. (Doyle scale) per shift may be reached under ideal conditions, although installation is profitable for mills cutting as low as 7,000 bd. ft. a day.

Interchangeable heads — flail scraper, abrader, and planer types — make it easy to meet all bark specifications. No conveyors needed — skids or live decks may be used for both infeed and outfeed; logs are fed sideways into the barker, and hydraulic kickers discharge barked logs to the rear. Kickers properly spaced to insure support for random length logs.

All movements controlled from one simple station, including start-stop buttons for all motors. Heavier construction than any other low-cost barker on the market. Weight, approximately 12,000 lbs.; cost, complete with all motors, \$8,500.

Individual literature available.

48" HORIZONTAL CHIPPER. Adaptable to ground level mill, so no elevated conveyor required. Furnished with 3 high chrome alloy knives and special Soderhamn anvil knife of new, heavier design, affording four usable hard-faced cutting edges. Knives bolt into disc. Chip size readily altered. Average production, 20 cords per hour — more than ample for one barker and screen; weight, approximately 6000 lbs.; HP required, 75-125 depending on conditions; cost, \$6,900 plus motor. (Motor can be quoted separately.)

Individual literature available.

CS-20 HORIZONTAL ROTATING CHIP SCREEN. Advanced design Chip Screen insuring quality production of chips — a *must* in today's market conditions. Delivers uniform chips, free of splinters and sawdust. No vertical movement oversize chips and splinters cannot jump through top screen plate as on conventional chip screen. Chips, sawdust and oversize pieces discharged separately. Requires no ground foundation—suspended from cyclone supporting structure, Average production, 5 cords per hr.; weight, approx. 1600 lbs.; cost complete with 2 HP 1800 RPM motor—\$2,200.

Individual literature available.

SODERHAMN MACHINE MANUFACTURING COMPANY



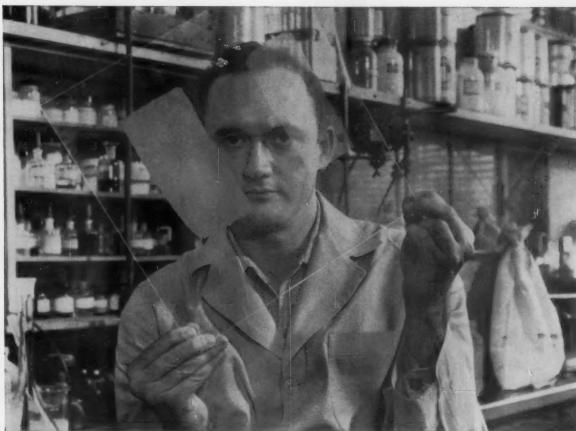
Talladega, Alabama West Coast: Suite 3, 9442 S.W. Barbur Boulevard, Portland, Oregon. East Canadian Representatives: Forano Limited, Montreal, Canada.



DID YOU GET YOUR COPY?

This brochure describes this 3-machine installation and tells how to figure your profits in advance ... how to get in the chip business. Write for it now!

SODERHAMN - FIRST NAME IN WOODWASTE UTILIZATION EQUIPMENT



Smears of size on glass show clarity of Ten-O-Film, right, almost invisible, compared with conventional starch, left.

Sure way to CLEAR, UNIFORM COATING

The highest degree of coating quality can be achieved with the new, improved Ten-O-Film starches.

These new starches possess unexcelled clarity, uniformity and film-forming properties. They are available in a series of fluidities to meet your exact requirements. Because of their high degree of viscosity stability at high solids, Ten-O-Film starches reduce setback and maintain adhesive strength, assure good performance. At lower concentrations Ten-O-Film starches assure superb structural film continuity and excellent results.

For technical assistance in selecting the TEN-O-FILM starch best suited to your needs contact our nearest sales office or write direct.

TEN-O-FILM° starches

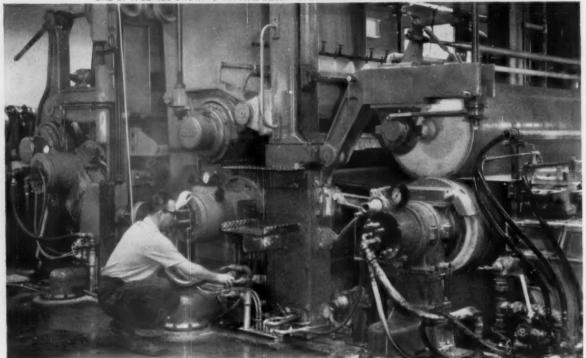
Fine products for the Paper Industry: EAGLE® • FOXHEAD® • GLOBE® • TEN-O-FILM® and CLARO® starches. GLOBE® dextrines and gums.



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BELOIT UNIT MODERNIZATION

ONE OF A SERIES SHOWING TYPICAL BELOIT SOLUTIONS TO COMMON MILL PROBLEMS



New press section 108" fine papers machine at Wausau Paper Mills Co., Brokaw, Wis.

Speed limited by drying capacity?

Moisture content across sheet not uniform?

Added grade versatility desirable?

Nip pressures limited by crushing?

Beloit Suction Rolls help lower operating costs

Get maximum sheet dewatering at minimum cost with Beloit suction rolls. Your machine can run better with fewer breaks at increased speeds and improved operating efficiency.

A properly designed press section with Beloit suction rolls can solve the problems listed at the left. In addition, felt life can be lengthened, sheet finish improved, dryer section steam pressures lowered, steam consumption reduced, and shadow marking reduced.

There's a Beloit suction roll design for any press section—suction pickup, suction press, suction pressure, suction transfer, suction felt, suction wringer, suction hot press.

>> ACT! Write today for information about the new Beloit suction roll for your machine. Write to Beloit Iron Works, Beloit, Wis.



your partner in papermaking

PULP & PAPER

Strictly Personal

Midwest

Carl A. von Ende joined Mosinee Paper Mills Co., Mosinee, Wis., July 1 as mgr. of mfg., in charge of all manufacturing operations from woodyard to shipping. A graduate of the U. of Idaho, he earned a master's degree at MIT and worked for S. D. Warren Co., Gilman Paper Co. and Brown Co. before joining Mosinee. Mr. and Mrs. von Ende and their two children will live at 801 Fifth St., Mosinee.

ONNI R. HARJU was appointed tax accountant and secy. of the tech. advisory committee for Consolidated Water Power & Paper Co., Wisconsin Rapids, Wis., and subsidiaries. Mr. Harju is a graduate of the U. of Wisconsin and joined Consolidated in 1953. EARL F. OTTO, maintenance supt. of Wisconsin Rapids div. of Consolidated, takes over as coordinator of inventories for all divisions, in addition to his duties as maintenance supt. LEO J. WELLING JR., graduate in paper technology, Western Michigan U., joined Consolidated's tech. dept. CHARLES W. HABECK was appointed order and billing dept. supervisor and HAROLD NELSON named to head a new scheduling section of the dept. at Wisconsin Rapids. JAMES L. LUECK, who has worked a year at the Appleton mill, joined Consolidated's public relations dept. under DAN P. MEYER, director of public relations. .

Erik Ungern is new technical director at Lee Paper Co., Vicksburg, Mich. He came there from Scott Paper Co. in Chester, Pa., and formerly was with Howard Smith Mills in Cornwall, Ont. . . . He is originally from Finland and his wife from Germany. . . . Harry Anderson, supt. at Kalamazoo Container Co., is from a Pembroke, Ont., box plant. . . . Mrs. Joe (Myrtle) Scheuermann, widow of the late v.p. and sales mgr. of Cameron Machine, one of this indus-

try's most popular salesmen, returned recently from a Caribbean cruise. She lives with her son-in-law and daughter, Jack and Yvonne Vanderberg (he's with Howard Smith Mills) in Kalamazoo.

JOHN FRANKLIN CROOK, for 15 years representing John W. Bolton & Sons in the midwest and for past two years on West Coast prior to affiliating with E. D. Jones & Sons last February as midwest representative, died June 7 in Portland, Ore. where he arrived that day preparatory to moving his residence to Ohio. He was 50 years old last Sept. 11. His wife and two children survive. . . .

Promotions at The Northwest Paper Co., Cloquet, Wis., are: R. E. Noreus, from mgr. of tech. service dept. to asst. mgr. of mfg.; F. C. Schroeder from chief chemist to mgr. of tech. service; and T. W. KAMPS JR. from chem. engr. in pulp mfg. dept. to supervisor of tech. service. . . . Frederic Horowitz, group leader of paper products research at American-Marietta Co., Seattle, Wash., since 1954, was transferred to the Booty Resiners div., Newark, O., as tech. service laboratory mgr. supervising all technical service laboratory projects at Newark. . . . David I. Johnston was appointed mgr. of the Akron, O., sales office of the Rubber Chemicals div. of Hercules Powder Co. ROBERT W. TURNER was appointed sales rep at Akron.

A nearly straight A U. of Wisconsin engineering student won the Scott Foundation scholarship award of \$1,000 for each of his junior and senior years. ROBERT P. GEREND, son of MR. and MRS. JOSEPH J. GEREND, 558 HOSMET St., Marinette, Wis., is the winner. . . .

THOMAS GERACE was named res. mgr. of St. Regis Paper Co.'s printing paper div. mill at Sartell, Minn. Mr. Gerace, formerly asst. to U. J. WESTBROOK, mgr. of pulp production for St. Regis pulp mills, succeeds WILLIAM S. WOODWARD who retired. . . .



John Verwayen Eddie Manogue

Jerseyites Take Look at Midwest Edward F. Manogue, vice pres. and mgr. of the paper mill and box plant of Gibraltar Corrugated Paper Co., North Bergen, N.J., and John Verwayen, chief engineer for all three divisions of Gibraltar, were pictured here by PULP & PAPER as they made a flying tour of mills and other operations in Michigan and Wisconsin, to see late developments in cylinder operations.

FORD T. SHEPHERD, vice pres., public relations, The Mead Corp., moved to new headquarters at 118 W. First St., Dayton 2, O., BAldwin 3-6111, from Washington, D. C. RICHARD GROWDON, formerly chief draftsman at the Chillicothe div., joined the engineering dept. of Escanaba Paper Co., div. of Mead, to become asst. div. engineer. . . .

ROBERT C. ETNIRE, chief industrial engineer for River Raisin Paper Co., was named director of production. . . . Donald H. Brewer, senior vice pres., Container Corp. of America, announces appointment of Edwin H. Bixby and James F. McDowell as gen. sls. mgrs. of the shipping container div. Both report to Harry Miles, vp of sales. . . .

New Indiana TAPPI District Completes Meeting Series

Completes Meeting Series

The newly formed Indiana District of TAPPI has concluded its first year of monthly technical programs under the chairmanship of Harris O. Ware, technical director at The Beveridge Paper Co., Indianapolis, makers of coated boxboard, bristols and specialties. Mr. Ware moved to Indiana recently from Michigan.

Membership has steadily risen during the year and attendance at the April and May gatherings was especially heavy, according to W. D. Boggess, The Beveridge Paper Co., vice chairman for membership, and C. E. Eberly, Paper Art Co., vice chairman for programming. John S. Sullivan, Monsanto Chemical Co., is secretary, and Cushing Roth, Morningstar-Paisley, is treasurer. All were re-elected.

Raymond Schrock of Black-Clawson Co, delivered an illustrated talk on basic design and the latest refinements of cylinder machines at the April meeting in Wabash, Ind. The May meeting at Indian-



Roth Boggess Ware Eberly Sullivan

PULP & PAPER

Strictly Personal

apolis was highlighted by a four-cornered panel discussion on moisture in board (W. D. Boggess, Beveridge Paper Co.), in printing (Frank Sulc, R. R. Donnelley & Sons), and measurement of moisture (W. O. Smiley, Electric Eye Equipment Co.).

Peddler Bopped on Nose At Michigan Fun Day!

WILLIAM WELCH, chemist at Lee Paper Co., scored low net of 69, and TOM FRIEDRICH, supt. at French Paper Co., came in with the low gross of 79, to lead 149 chasers of the white pellet who came out in late June for the annual Fun Day at Gull Lake, near Kalamazoo, sponsored by the TAPPI and Supts. organizations of Michigan. The trenchermen outnumbered the golfers, as more than 213 came for dinner.

This was the first year a cup was ever given to a winner. The Michigan Papermakers Handicap Trophy, donated by suppliers went to Mr. Welch.

It was JOHN T. WALMSLEY'S show, in a manner of speaking, for the Midwest manager of Hooker Chemical Corp., was chairman of the event and had plenty of work to do. Moving up behind him as next year's chairman is Gordon Gill of Penick & Ford and already being groomed for the big job in 1960 is Richard Van Buren, of J. M. Huber Corp.

WILLIAM A. Honey, Price & Pierce pulps, perennial golf chairman who usually leads the "peddlers," came in with a 75, despite being bopped on the nose at No. 3 green by a ball hit by his U. of Mich. roommate, Charles Lille of Nalco. Incidentally, in scoring low gross, Tom played around with his father, Val. Friedrich, v.p. in charge of production, Beckett Paper Co., who came up from Ohio. Bert Cooper, v.p. of Kalamazoo Paper, a senior member of the club, showed the younger set a good score.

There were two Canadian guests, LARRY WELCH, Howard Smith Mills pulp sales, and JOHN MAHONEY, control supt. from KVP Ltd., Espanola.

Ted Olson, President of Nekoosa Foundry in Wisconsin, Dies

THEODORE W. OLSON, 56, president of Nekoosa Foundry & Machine Works, Inc., Nekoosa, Wis., died recently after a long illness. He was widely known in the pulp and paper industry.



L. Taylor Summers

Hangs Out Shingle As Industry Consultant

L. Taylor Summers, who was associated with his father as a consultant and then for 31 years held important technical and engineering posts at Port Huron Sulphite & Paper Co., has hung out his own shingle as consultant to the paper industry.

His headquarters are at 4526 Lakeshore Road, Port Huron, Mich.

Mr. Summers was secretary and technical director of the Port Huron company for the past ten years. He was in technical charge of the mill during construction of two new machines and modernization of two others. In this period Port Huron mill changed from wrapping to high grade specialty papers.

VISA, New Industry Affiliates Group, Is Organized

Another live-wire salesmen's and industry affiliates group known as the Valley Industrial Salesmen's Assn., P.O. Box 223, Neenah, Wis., has been organized. It already has 40 members. Purpose is to promote good will among members, provide mutual assistance in common problems and present an opportunity for self improvement.

Officers are: Allen C. Gray, Minnesota Mining & Mfg. Co.—president; Harry L. Ford, C. A. Roberts Co.—vice pres.; Matthew F. Healy Jr., American Cyanamid Co.—secretary and program chairman, and James C. Mills, Wyandotte Chemicals Corp.—treasurer. One of the biggest "colonies" of salesmen serving pulp and paper mills lives in the Appleton-Neenah-Menasha area of Wisconsin, from which VISA expects to draw many more members.

At a June meeting, Foster P. Doane, Bergstrom Paper Co. vice pres., Steve Baisch, consulting engineer, Kaukauna, Wis., and G. L. Altman, past pres., Milwaukee Purchasing Agents Assn., served on a panel to tell members "what we expect from our suppliers' reps."

Meetings resume in September.

Greater Production of Higher Quality Pulp

- in Less Time
- · at Lower Cost

This is the end result of the various processes and equipment which we have installed in pulp mills throughout North America. Send us details of your requirements.

Chemipulp Process Inc. Watertown, N. Y.

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Chemipulp Process Ltd., 253 Ontario St., Kingston, Ont.

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A. H. Lundberg, Inc., P. O. Box 202, Mercer Island, Wash.

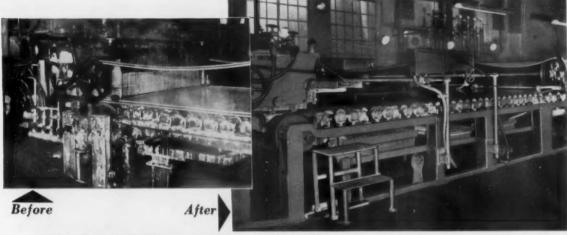
REPLACE MACHINE PARTS

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• for higher output

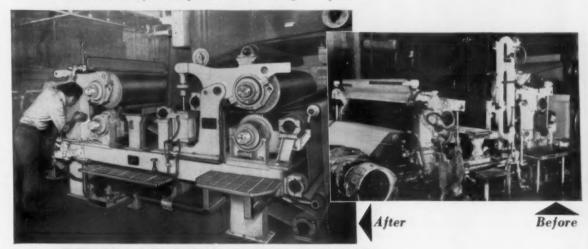
• for lower costs

NOW!



FOURDRINIER REPLACEMENT

In the breast roll area, it was necessary to remove Pond Plates to change the wire, and there was always the great hazard of wire damage in the process. Now, in the Sandy Hill replacement, wire change time has been cut 65%, operation is smoother, power consumption lower, bearing life longer and the wire is safe against damage. Note also larger white water pans.



PRESS SECTION REPLACEMENT

This 50 year old press section was struggling along with bronze bushings, old stretches, inadequate rolls and uneven top roll loading. The new Sandy Hill section which replaced it has anti-friction bearings, adequately designed press rolls, finely

controlled pneumatic loading, box type framing, sturdy stretches and new felt roll alignment, which reduced power consumption, increased felt life and cut down-time substantially.



SANDY HILL

HUDSON FALLS, N. Y.

Write for Section I, Sandy
Hill Centennial Catalog,
entitled "Sandy Hill Fourdrinier Machines"

PULP & PAPER

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Northeast Memo from MRC

JACK W. HARTUNG, mgr. of the purchasing dept. of St. Regis Paper Co. since 1955, was promoted to director of purchases. He joined St. Regis in 1941 and became purchasing agent for the Kalamazoo mill in 1947. . . . HANS G. BRANDES and WILLIAM G. CLARK WEYE

appointed to the staff of the marketing research dept., marketing research and new products div. of International Paper Co. Both Dr. Brandes and Mr. Clark joined IP in 1956. . . .

Lowell Technological Institute awarded bachelor of science degrees in paper engineering to Donald L. Joyce, Edward J. Brennan, Paul R. Roussel, Richard J. Urbanek, James N. Copley, Frances C. Sharron, Francis J. Wiesenschen

LOCH JR. and GILBERT NOWELL. . . .

Walter B. Eklund moves from sales mgr., industrial div., Warren Pumps, Inc. to operations mgr. on Jan. 2, 1959. Mr. Eklund is a graduate of Worcester Polytechnic Institute and has been with Warren since 1938. Charles F. Dexter became sales mgr., industrial div. July 1... Maurice F. McGrath was named New England sales and service rep for J. M. Huber Corp. He will handle sales of coating and filler and other coating pigments, with headquarters at 385 Concord Ave., Belmont, Mass....



Gib Kittredge, Crane Gen. Supt. Gilbert D. Kittredge, has been promoted to general supt., Crane & Co., Dalton, Mass. He's a graduate of Philips Academy, Andover, Mass., and an m.e. grad from Yale U. He joined Crane in 1947 on a three year training program. He became supt. of Crane's Government mill in 1950, and later was plant engineer until his promotion. He and his wife, Jean, live in Dalton with their three youngsters, two girls and a boy.

GORDON SHATTUCK, manager of supplies, Strathmore Paper Co., and his wife, Anne, celebrated their 25th wedding anniversary recently, after his return from a business seminar in Montreal. . . .

ART HAGAR of Stebbins Engineering, Watertown, N.Y., and BILL HAGAR, of Babcock & Wilcox, Boston, both active in this industry, have decided they have common fourth cousins.

Dexter D. Coffin, former president, is now chairman of the board of C. H. Dexter & Sons, Inc. His son, David, moves up to president. The company is said to be Connecticut's oldest manufacturing enterprise. It pioneered tea bag paper and is said to be the world's largest supplier. . . . On the move at New York & Penn's Johnsonburg, Pa., mill: O. H. Knapp becomes technical asst. to R. N. Jones, Johnsonburg division mgr. R. Ken Guinard becomes technical director; F. W. Crowe advances to asst. genl. supt. and J. H. Kessler is personnel mgr. . . .

HUGH H. LAVERY, technical supt. at International Paper's Hudson River N. Y. mill since 1950, takes over new post of coating engineer. AL OETKEN steps into his former job. . . . Mr. Lavery joined IP in 1937, after getting his b.s. in chem. engineering from M.I.T. Mr. Oetken, a Rensselaer Polytech grad came to IP in 1948. . . .



RADER SYSTEMS PIPE PULP CHIPS LIKE WATER

Rader diversion valves make chip flow as flexible as water lines. These valves can be operated manually (see illustration) or automatically by remote control. Rader valves can be interlocked with bin level indicators or any other device to actuate control circuits, making delivery of chips to digesters or bins fast and sure with a minimum of labor. In one west coast paper mill, one Rader system, through the use of valves, delivers chips to six different destinations. The flexibility of Rader systems, piping underground or over obstacles, combined with automatic controls provides the most efficient method of conveying pulp chips, bark or any other type of wood particles.

RADER PNEUMATICS, INC.

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PUGET SOUND PULP and TIMBER CO. BELLINGHAM . WASHINGTON

PULP & PAPER

Strictly Personal

HEWITT WELCH, formerly i/c special projects for West Virginia Pulp and Paper, is now technical director of Clupak, Inc. He will head up r and d, headquartering in New York City. He's a ch. engineering grad of North Carolina State College. . . . WENDELL D. RAY is now manager of A. E. Staley's Boston, Mass. branch, succeeding RAY E. KILTY who steps up as regional manager for Staley's eastern U.S. field sales group for paper, corrugating and building materials. Mr. Kilty is a 24-year man with Staley, was recently named as local arrangements chairman for TAPPI's 10th Coating Conference in Boston next year.

RICHARD A. "DICK" McKAY advances from sales mgr. of Holyoke Wire Cloth Co., to v.p. i/c sales. He has a degree from LaSalle U. (business management), spent 19 years with Strathmore at the Woronoco Nos. 1 and 2 mills. . . . ALLAN HYER, now a v.p. with Pusey-Jones, attended his 35th consecutive Superintendents National this year in Boston. Sounds like a record. . . RAY OLSON and JOE VOIT, The Glidden Co.

(alpha proteins), recently paired up to visit local mills in and around New York and New Jersey. . . .



Lester J. Smith Becomes Assî. to Mgr., Pulp and Paper Production . . . for St. Regis Paper Co. Mr. Smith was formerly general superintendent of mills in Combined Locks, Wis., and Kalamazoo and headed up St. Regis operations in northern N.Y. St. Regis paper ruills. In his younger days he was a member of the Detroit American League professional baseball club.

PHIL TALIPS, West Virginia P and P., is new chairman for Metropolitan Dis-

trict, Empire State Section, TAPPI. HAR-OLD L. PECKHAM (Oxford Paper Co.) is chairman-elect; AL HARTLEY (Nopco Chemical Co.) is secretary-treasurer (taking over from WARREN KUMBLAD Socony-Mobil) and ELLIOT S. KOHN (Rowland Tompkins & Son) is advisory committee member-at-large. Attention all members: monthly meetings will probably be held at a more convenient location, probably at the Brass Rail Restaurant near Grand Central Station. . . .

ROBERT R. KINDRON has been promoted to technical asst. to the New England sales mgr. of Becco Chemical Div., Food Machinery and Chemical Corp. . George Olmsted Jr., president, S. D. Warren Co., received an honorary degree (doctor of laws) from University of Maine.

FRANK LARABEE, editor of St. Regis Bucksport, Maine mill's Seaboard Bulletin, is pleased over his 13-year old son, John, rescuing a five year old youngster from the Penobscot River. . . . MAURICE WARNER, Sierra Tales, has moved with his Mrs. to Niskayuna, N.Y., renting a home there, from where he'll cover the Eastern U.S. (east of the Mississippi). . . LARRY EGAN, v.p. and sec., Frank W. Egan Co., recently commuted to Europe. . . JOHN O'DONNEL replaces HAROLD SPECTRE at Naugatuck Chemical Div., U. S. Rubber, who is now with Strathmore Paper Co. . . . STAN HEPP, moves back to Boston from Buffalo for Hubinger Corp., where he will again visit mills in the Northeast. . . . Frank W. PRESTON has joined Mount Hope Machinery Co. as paper consultant. He was previously plant engineer at New Haven Board and Carton. . .





King Shenher

Bird Elects Vice Presidents

Bird Machine Co., South Walpole, Mass., has elected Calvin A. King first vice president and Henry H. Shepherd vice president in charge of sales. Mr. King has been with Bird 12 years, recently as assistant to the president and formerly as manager of the Bird Research and Development Center, a complete plant set up exclusively for test work, research and development. He played a leading part in development of Bird Centrifugal and Filtration equipment. Mr. Shepherd has been with Bird for 20 years and was general sales manager. He was formerly in charge of centrifugal and filter sales at the Evanston, Ill. office.

CORROSION

handling problem solved by **BART**

LECTRO-CLAD pipe

At the Muscle Shoals chlorine-caustic soda plant of Diamond Alkali, one of the largest of its kind, BART Lectro-Clad pipe carries hot caustics to storage tank—efficiently and economically.

IF YOU HANDLE CORROSIVES OF ANY KIND-

Investigate BART Lectro-Clad pipe and fittings. Providing a smooth, ductile, pore-free coating of nickel in its purest form, they combine high strength, heat tolerance, and remarkable ease of fabrication and maintenance. Most sizes readily available, others to order. Write distributor for full technical data. Michigan Pipe Co., 2415 Burdette Ave., Ferndale, Michigan.



Part of 7000' Bart Lectro-Clad pipe running from Diamond Alkali plant to river storage tank.

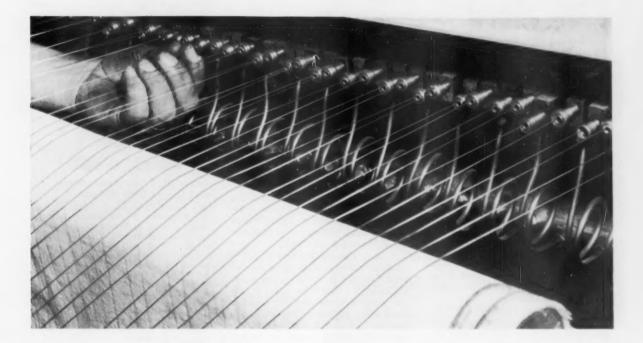
BART

MANUFACTURING CORPORATION

ELECTROFORMING • PIPE LINING & COATING • PLATERS
CHEMICAL PUMPS • ENGINEERING DESIGN SERVICES

227 Main Street, Dept. P8, Belleville 9, N. J.

These strands of wire emerging from the tubes of the annealing furnace have a new, different personality. Annealing is an important factor in determining the physical characteristics of wire. Tensile strength, resistance to wear, flexibility are built-in by carefully-controlled annealing temperatures and speeds. Wire is tailor-made for its specific application . . . another reason why Appleton wires are good wires.



Appleton's eight annealing furnaces operate around-theclock turning out over 100 combinations of alloys, wire sizes and tempers . . . exclusively for use on our own Fourdrinier wire weaving looms. Ask your Appleton Wire Works representative how this versatility can be put to work for you.

Appleton Wires are Good Wires



Appleton Wire Works, Inc. Plants at Appleton, Wisconsin and Montgomery, Alabama / International Wire Works, Menasha, Wisconsin

PULP & PAPER

Strictly Personal

Bennett Returns North Resumes as President

MURRAY H. BENNETT, top executive of Chemical Linings, Inc., 156 Stone St., Watertown, N.Y., has moved back to that city from Jacksonville, Fla., his home and headquarters during the recent period of extensive expansion of the industry in that region.

Because of his return to the main offices, Mr. Bennett, who was chairman of the board, resumes duties as president of the company. T. E. (Ted) Detcher will be vice president and E. A. Branche will be treasurer.

More Graduates From Huyck Workshop

Huyck Felt Co., at its Aliceville, Ala., plant, recently conducted its second felt workshop. Graduates were Dr. KARL LAUER, U. of Alabama; J. B. CUNNING-HAM, CARL McLEOD, and MILES PENTON, Gulf States Paper Corp., Tuscaloosa; R. S. ENGERT and F. M. BROOME, St. Regis, Pensacola; LUTHER I. PETERSON, Eaton-Dikeman Co.; LARRY THOMAS, Crossett Paper Mills; MAURICE LARSON, Bergstrom Paper Co.; JOHN NOBLE, Waldorf Paper Products Co.; JACK GILLEN, Fleming and Sons; EARL MOAK, Marathon Southern Corp.; CLYDE J. PATE, and J. S. Wrrr, Champion Paper & Fibre Co., Pasadena, Tex.; Lucien R. Vianey, Eaton Dikeman; J. W. MALONE, Scott Paper, Mobile; S. D. DOLLAR, FRANK PARHAM, and Robert Hart, Gulf States Paper Corp., Tuscaloosa, and P. F. NEUMANN, Hercules Powder Co.

At Rensselaer, N. Y., Huyck Felt Co.'s seventh felt workshop recently graduated another 23 papermakers representing mills in U. S. and Canada, They are: Dr. C. LAVISTE, Richmond Pulp and Paper, Bromptonville, Que.; JAMES STANLEY, Johns-Manville, Manville, N.J.; C. Curtis PHELPS and CLIFTON E. DOULL, Brownville Paper Co., Brownville, N.Y.; PAUL GAPPA, Wausau Paper Mills, Brokaw, Wis.; GEORGE MEAD II and JACK CHINN, Consolidated Water Power and Paper, Wisconsin Rapids: ROBERT SHENBERGER and ANDREW C. MILLER, P. H. Clatfelter Co., Spring Grove, Pa.; JOHN McCONNELL, Strathmore Paper Co., W. Springfield, Mass.; F. Ross Valentine, Homasote Co., Fulton, N.Y.; JAMES G. CALDWELL, North End Paper Co., Fulton, N.Y.; THOMAS Manion and Robert M. McIlvain, Downingtown Paper Co., Downingtown, Pa.; MONROE VELGUTH, Fort Howard Paper Co., Green Bay, Wis.; GEORGE W. HALLAM, Alliance Paper Mills, Merritton, Ont.; CARLETON MARTENS, Lee Paper Co., Vicksburg, Mich.; JOHN SMITH, Putney Paper Co., Putney, Vt.; L. A. AUTUORI and MILAN J. BULL, Raybestos-Manhattan, Stratford, Conn.; John C. Bloom, Oxford Paper Co., Rumford, Me.; Keith Martin and Lawrence Finnegan, St. Regis, Deferiet, N.Y.

To provide for the many papermakers who could not be included in felt workshops already held, Huyck has scheduled Workshop No. 10 at Rensselaer, N.Y., Oct. 8, 9 and 10.

Southern Memo from WFD

The Southern Exposure: ARTHUR L. HARRIS, president of the Mead-Atlanta Paper Co. and vice pres. of The Mead Corp., has been named French consul of Atlanta. He majored in French at Yale before entering Harvard Law School . . . OTTO CUMMINGS is new tech. dir. at I.P.'s Camden mill and R. E. WALLACE takes over as chief chemist . . . at International's Georgetown mill, Louis Riley has been named safety dir., JOHN STEVENS is asst. chief chemist, D. C. WALLACE is new paper mill tour foreman and Nor-MAN SILLIMAN is senior pulp mill tour foreman . . . THOMAS R. RUCKER, JR., a graduate of Alabama Polytechnical Institute, has been transferred from Chicago Bridge & Iron's Birmingham erection district to the Atlanta sales office.

MARK A. FERRELLI has been promoted to administrative assistant to the supt. at West Virginia Pulp & Paper's Covington, Va., plant . . . Tom Benson, Ja., is now gen. mgr. of Container Corp.'s folding carton plants at Chattanooga, Tenn., and Greensboro, N.C. . . . Joe Callan, formerly with Potlatch Forests, Inc., is now



Donald E. Lawson Becomes Asst. Resident Mgr. for Engineering

... at Rayonier Inc.'s Jesup, Ga., div., replacing Earl K. Murphy who was named chief engineer of the southeast central engineering div. Frank C. Hawks Jr. was appointed asst. resident mgr. of the Fernandina, Fla., div. Mr. Lawson came to Rayonier at its Port Angeles, Wash., div. in 1937 as a staff engineer.



Robert H. Evans Heads New and Larger O-M Division

Vice president in charge of Olin Mathieson Chemical Corp.'s Forest Products Division, based in Monroe, La., Mr. Evans has been promoted to vice president i/c of new integrated Packaging Division. His responsibility will include kraft paper (in Louisiana and new mill in Brazil), fine paper (Ecusta Paper Corp., where expansion into book paper has been completed), film (cellophane in Ecusta and Olin, Ind.) and lumber and logging (southwest). Mr. Evans has been active in this industry for many years and during the war served in woodpulp allocations for the government.



Scott Davis Webster Pescl

At Stream Improvement Meeting

William T. Webster, v.p. of Owens-Illinois Glass Co., and A. W. (Tony) Pesch, International Paper Co., seem to be getting a kick out of the conversation between Dr. D. C. Scott, of the U. of Ga., and Adm. A. L. Davis, U. of Fla. during a recent National Council for Stream Improvement meeting held at Gulfport, Miss. They were all on speaker's platform during the meeting the next day.

Ham Feltz says . . .

"This 100th Anniversary Seal Is Your Assurance of BETTER Hamilton Felts"



"QUALITY ... SERVICE ... PROGRESS." These words—appearing on our 100th Anniversary Seal—sum up the philosophy which has guided us since our founding in 1858 by J. W. Benninghofen and Asa Shuler. They epitomize our pledge to the paper making industry for the years to come.

Every operation in the manufacture of Hamilton Felts—from the selection of wools through the finishing process—is still characterized by the same proud craftsmanship as in those earlier days.

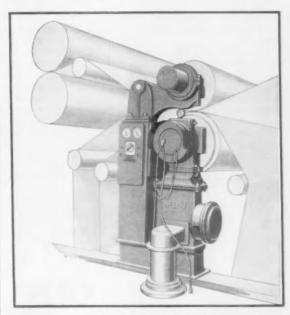
But today's Hamilton Felts also incorporate the results of our continuing program of technical improvement—permit operators to run machines faster with fewer stops, less broke . . . they remove more water faster and deliver drier sheets to the driers.

Isn't this what you, too, want from your felts? Then why not contact us—today?

Hamilton FELTS

SHULER & BENNINGHOFEN HAMILTON, OHIO BELOIT UNIT MODERNIZATION

ONE OF A SERIES SHOWING TYPICAL BELOIT SOLUTIONS TO COMMON MILL PROBLEMS



Beloit air bleed suction press

- Speed limited by drying capacity?
 - Sheet rewetting a problem?

Beloit Air Bleed Press can increase output over 20%

Easily and economically installed at the second or third press position, the air bleed press (a Beloit "first") brings you the advantages of higher output...increased nip pressures... cleaner felts... and, most important, an end to sheet rewetting. Let Beloit design and building experience help you modernize that obsolete press section.

>> ACT! Write for facts—or let a Beloit Engineer show you the advantages of the Beloit air bleed press. Write to Beloit Iron Works, Beloit, Wis.



your partner in papermaking

Strictly Personal

finishing and shipping supt. at Riegel Carolina's new Carolina paper mill in Acme, N.C.

Union Bag-Camp has announced several important promotions at its Savannah mill: T. C. Johnson, gen. operating supt., becomes asst. mgr., pulp and paper div.; JOHN FIELDING is new power and maintenance supt.; J. M. PIETTE, paper mill supt. since 1953, becomes gen. operating supt.; R. C. Hall, former asst. pulp mill supt., is now head of that dept. replacing Mr. Piette; J. E. HUNGERPILLAR steps into Mr. Hall's job and W. L. SMITH, shift foreman, is now asst. pulp mill supt. . . .

Delbert A. THEOBALD has been appointed gen. mgr. of Container Corp.'s Fernandina Beach, Fla., plant. He moves up from plant mgr. . . . Some kind of a record was established at Big Island, Va., when Owens-Elinois honored 94 employes with 2,468 years of service. Six persons had 42 years each . . . Tallest "true" tale of the month comes from

Orion, Ark., where International Paper's Southern Kraft Woodlands Div. reports there is a pine tree growing out of the trunk of an oak . . . It's usually oak that encroaches on pine!

EDDIE DRAWDY, mechanic at Gulf State's new Demopolis market pulp mill, has the distinction of also being an inventor-his invention, newly patented, is a "combination pocket level" which serves as a level, square, plumb bob and marking instrument. He has several offers for production of the instrument. At Gulf States, James "Tim" Holt has been promoted to process evaluation engineer; ARCHIE KING and JESSE LANIER to maintenance foremen.

J. C. HAIR, paper mills mgr., Crossett Paper Mills, announces: ELLIS M. HART, former digester cook in the kraft mill, promoted to woodroom and woodyard foreman replacing R. M. Downey, who is assigned to supervisory staff of the pulp mill; and T. M. PHILLIPS, asst. safety supervisor and personnel counselor, promoted to admin. asst. to mgr. . .



Sam Runyan to St. Francisville Mr. Runyan, asst. men's personnel supervisor Crown Zellerbach, Camas, Wash., promoted to personnel-safety supervisor of new St. Francisville, (La.) Paper Co., being built by Crown Z and Time, Inc.



A. J. Navarre Joins Noralyn

Mr. Navarre, former gen. plant supt., Orange Pulp and Paper Mills, Orange, Tex., becomes vice pres. and director of Noralyn Paper Mills, Inc., Shreveport, La. He is at native of Thibadeaux, La. J. H. Ainsworth also joins Noralyn as vice pres. and director. Mr. Ainsworth was born in Manchester, England, and moved to the states about ten years ago. He was to the states about ten years ago. He was with Thilmany Pulp & Paper Co., Kaukauna, Wis. Both Mr. Navarre and Mr. Ainsworth will live in Baton Rouge. Initially the well with Parada and tially they will work with Barnard and Burk, Inc., Consulting Engineers.





Paperboard products get a real lift with TITANOX*. Packaging with greater point-of-sales appeal . . . book and magazine stocks with greater contrast and less show-through . . . opacified glassines and waxed papers with high legibility—all share in the matchless whitening, brightening and opacifying power of TITANOX titanium dioxide white pigments.

To achieve these results, papermakers can choose from among such white pigments as TITANOX.A-WD, TITANOX.C-50, or TITANOX.RA-50. Whether used at the beater or in the coating, TITANOX white pigments insure easy mixing, complete dispersion and uniformity of all properties. Titanium Pigment Corporation, 111 Broadway, New York 6, N. Y.; offices and warehouses in principal cities.



TITANIUM PIGMENT CORPORATION

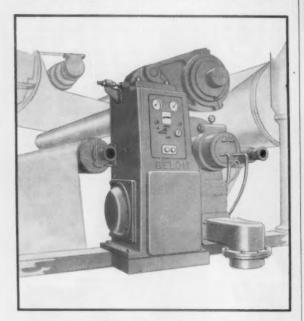
Subsidiary of NATIONAL LEAD COMPANY

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5729

BELOIT UNIT MODERNIZATION

ONE OF A SERIES SHOWING TYPICAL BELOIT SOLUTIONS TO COMMON MILL PROBLEMS



Beloit unit press frames

- Sheet moisture varying due to nonuniform nip pressures?
- · Frequent adjustments to loading system required?
- · Operating speeds restricted by low nip pressures?

Beloit Unit Press provides optimum press performance

A Beloit unit press can be installed on any machine. Its outstanding feature is frictionless air diaphragm loading—resulting in uniform loading at front and backside.

If higher operating speeds are restricted by an outmoded press, then this is the time to consider a Beloit unit press.

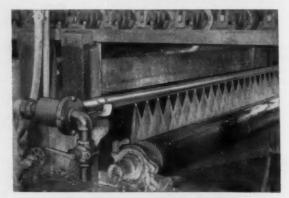
» ACT! Write for facts—or let a Beloit Sales Engineer show you the advantages of a Beloit unit press. Write to Beloit Iron Works, Beloit, Wis.



your partner in papermaking

FORCEFUL SHOWERING UNIFORM SHOWERING

WITH FRESH WATER OR WHITE WATER



DeZURIK SHOWERS

deliver a direct, fan-shaped spray without the use of deflectors. This higher velocity spray cleans more effectively with less water. Large nozzles and the elimination of sharp corners retard clogqing—even when white water is used. Individual stainless steel nozzles are easily replaced, giving the equivalent of a new shower at a fraction of the cost. Specify DeZurik Showers on cylinder molds, wires, felts, flow-boxes, screens, washers, save-alls, pulp-grinders—wherever forceful, uniform, efficient showering is demanded.

DeZURIK CLEANABLE TRIM SQUIRTS

completely eliminate "down time" to clean or replace a clogged squirt. They clean instantly, right on the job—a quick press on the plunger—a stainless steel pointer cleans the orifice and springs back!

No loss of production, less broke, more paper on the reel!





PULP & PAPER

Strictly Personal

Pacific Memo from LHB

HENRY H. SALMONSON, Stebbins Engineering ceramics engineer residing in Portland, Ore., was one of 10 civilian Americans kidnapped by Cuban rebels from U.S.-owned Moa Bay mining project. He was later released unharmed, said he made "a lot of new friends." He is son of S. A. SALMONSON, formerly supt. of Soundview Pulp Co. and now pulp consultant living at Yachats, Ore. A brother, Walter A. Salmonson, Portland, is West Coast manufacturers agent for Draper, DeZurik and other firms. . . .

Frank C. Strueby has been promoted to acting electrical foreman at Longview Fibre Co. and Wallace L. Boling succeeds him as asst. electrical foreman. . . . Dean H. Brosche, for ten years industrial sales representative of Corn Products Sales Co., was named Pacific Northwest mgr. to succeed T. B. Horn who retired. . . . Jack L. Decker has been promoted from chemist to chief chemist at Columbia River Paper Mills and Clyde Lieser from asst. pulp mill supt. to pulp mill supt. . . .



T. M. Dunlap, Seattle Mgr.
Mr. Dunlap, asst. to mgr. of Longview
Fibre Co. container plants for past year,
has been promoted to supt. of Longfibre's
Seattle container plant.

Former Fibreboard San Joaquin Div. men join Potlatch Forests, Inc., Lewiston, Ida.: Pete Halgren becomes tech. asst. to PFI pres. Robert E. Bundy; A. H. Lindquist asst. to plant engr. J. L. Betts.

CZ St. Helens promotes Philip M. Schnabel Jr. from pulp mill supt. to supt. of wood mill & pulp mill, Albert R. Abraham from shift supervisor to pulp mill supervisor, Charles J. Wallis, cook, to pulp mill shift supervisor. . . . W. L. Dietrich, formerly project engineer for Alcoa, becomes chief engr. of Ray Smythe Co., Portland. . . .

Alaska Lumber & Pulp got off to an early safety start at new mill under construction at Sitka, Alaska. Daniel J. Doswell, mgr. public-industrial relations, presented a safety hat adorned with a bright red rose to Mrs. Ernesttine Veatch, editor and co-owner of Sitka Sentinel, who prepares monthly mill progress report. . . .

Weyerhaeuser Timber Co. employes do double duty as officials in city governments. Dale Wilson, personnel mgr. at Grays Harbor mill, is city councilman in Aberdeen, Wash. Two other Grays Harbor employes, Paul Larsen and Glen Ferris, were elected to Cosmopolis, Wash., city council. Lloyd Metke, log buyer for Clemons Operation, served three years on the Montesano, Wash., council. Everett Barton, public relations director at Longview, Wash., served 20 years on council. . . .

Key CZ people receiving long-service awards: 40 yr.—Frank Smith, paper mill supt., Lebanon div., Kenneth Thompson, machine room day foreman, West Linn div.; 35 yr.—Marie McLeod, audit dept., and Charles Grubstick, pricing specialist-marketing services, both of San Francisco headquarters; Merrill Cashman, safety supervisor, West Linn; Ellen Doucherty, exec. secretary, Port-

land, Leroy Martin, shift foremanwoodmill, West Linn. John M. Fulton, director of purchasing and corporate representative, was a 30-yr. award winner.



Janecek Forkner

Changes at Inland Empire Paper Jerome L. Janecek retired recently as gen. supt. at this mill near Spokane, Wash., and has since taken trip to Mexico. Hardie J. Forkner, formerly assistant to Mr. Janecek, succeeds him as gen. supt.

CLAY SERBAHN has returned to the San Joaquin board mill, Fibreboard Paper Products Corp., after a brief stay at Stockton, Calif., as office manager. Mr. Serrahn has been assigned as service supt. Phil. Nash is new office manager, Stockton. He was formerly supervisor, production planning, Stockton. . . .

Frank Medlin, accounting dept., Ketchikan Pulp, was recently elected pres. of the Lions Club. . . . Harry Binzer, secy. of Puget Sound Pulp & Timber Co., was elected vice pres. of the Assoc. of Wash. Industries. . . .

Diamond Gardner Corp., Red Bluff: Frank Biehl., formerly molded pulp dept. engr., has been named general plant engr. of this integrated operation and will be responsible for organizing and directing a central engineering dept. Milton Rothwell. has been appointed plant traffic mgr. . . .

PAUL R. SMITH, pulp mill supt. at Simpson Paper Co. mill since 1946 retired, will continue as consultant. . . . HAAKON K. BERGER, who became asst.



pulp mill supt. on same date Mr. Smith was appointed supt., succeeds him. . . . G. A. Beilfus, boss machinetender at Simpson Paper, gets fourth diamond for 40 yrs. service. . . .

OTTO R. HARTWIG, consulting safety engineer and formerly general safety supervisor for Crown Z Corp., is preselect of the Portland, Ore., chapter of the American Society of Safety Engineers. . . . BERNARD L. ORELL, formerly vice pres. of Weyerhaeuser Sales Co. is elected a vice pres. of Weyerhaeuser Timber Co. and will direct and coordinate the over-all resource relations and public affairs activities. . . .

Fibreboard Paper Products names J. G. KELLEY as mgr., Denver Carton Plant, Central Packaging Div. to succeed R. J. Brown, who transfers to supervisor, training, of Stockton, Calif. carton plant; SYDNEY G. PETTITT as technical director of Fibreboard's new Packaging Group headquartered in San Francisco for coordinating all of regional packaging mfg.; W. K. CARHARTT as service supt. of Fibreboard's Florence, Colo., gypsum plant: RICHARD M. CONLON as industrial relations specialist at Emeryville, Cal.: THOMAS F. MARTIN as administrative asst. to the gen. mgr. of the Paperboard Div.; KENNETH J. BUSSEE, formerly tech. supt. San Joaquin mill at Antioch, succeeds Mr. Martin as technical supt. at Vernon, Calif. . . .



John Grady Lewis, Sulfite Supt., Oregon Pulp & Paper Co.

he was formerly affiliated with Rayonier Inc. and more recently with Columbia Cellulose at Prince Rupert, B.C.

New Supts. Meeting

Third meeting of the recently organized Bay Area Group, Pacific Coast Division, APPM Supts. Assn., was held in Stockton, Calif., with 40 present. Chairman of the meeting was R. T. Drummond, board mill supt., Fibreboard Paper Products, Stockton. Ralph Beaubegard, plant supt., Fibreboard, Stockton, was guest speaker. He traced the history of the 40 year old Stockton mill. Don Fuller, plant supt., Stockton, acted as secretary of the meeting. Next meeting will be in Richmond, Calif., Sept. 25, hosted by Quaker Container Co.

Canada

Memo from CLS

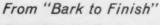
R. J. SHEMANSKI, comptroller for Kimberly-Clark Corp. in Neenah, Wis., has been elected vice pres. of Kimberly-Clark Corp. of Canada, Ltd., responsible for financial affairs of all Canadian subsidiaries. He will make his home in Toronto. Formerly he was comptroller at Terrace Bay. . . . W. L. Brown, who joined Dominion Enginering Co. in 1945 as supervisor of stores and was later supt. of material control, has been made mgr. of purchases. . . .

R. A. IRWIN, vice pres. of Bathurst Power & Paper Co., Bathurst, N.B., has been elected a director. . . E. H. Gibson, formerly sales co-ordinator of Bathurst Containers, Ltd., has been appointed director of sales, headquarters Montreal. . . . H. S. Littlejohn has resumed his former position with Bathurst as consultant to the president. . . .

FRED O. SOUGHTON, training coordinator, Kimberly-Clark Pulp and Paper Co. Ltd., Terrace Bay, Ont., was a delegate to the Brussels Safety Congress, representing the National Safety Council's Pulp and Paper Section. . . D. D. HALL, formerly materials handling mgr. of E. B. Eddy Co. Hull, Que., was named asst. to the vice pres. and gen.



SARK - Bark and fines removed from effluent are recovered for fuel at Weyerhaeuser Timber Co., Snoqualmie Falls, Wash.



SWECO Separators raise screening efficiency

From the crude scalping of solids in barker water – to the removal of tiny particles in starch clay coatings – the Sweco Vibrating Screen Separator is improving quality and lowering costs in more and more paper mills. Why? Compact . . . high capacity . . . high efficiency . . . flexible . . . simple to install and operate.

VALUABLE SCREENING DATA will be sent to you on any of the operations listed (below). Or a Sweco District Engineer will call to discuss your particular screening problems and demonstrate on your material.



FINISH - 485 gals. of starch slurry are screened in 25 minutes through 150-mesh cloth at Mead Corporation, Chillicothe, O.

Dept.	S-207
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Dept. S-207-19 Southwestern Engineering Company

4800 Santa Fe Avenue, Los Angeles 58, Californía LUdiow 3-6262 - Cable: swecola Engineers and Constructors . . . Manufacturers

Please send me information following applications:	regarding	the use of	SWECO	Vibrating	Screen	Separators	for 1	h
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City_

Clay slip coating Pulp or bark
Starch-base clay coating Barker water
Wood chips and fines Starch slurry
Sawdust Starch sizing

SWECO

SEPARATORS

- Sawdust Starch
 Finished latex-base coating
 Ammonium stearate coating
 Latex-titanium dioxide clay coating
- Other.

 'I'd like the new 20-page SWECO Separator catalog

 I'd like a screening demonstration

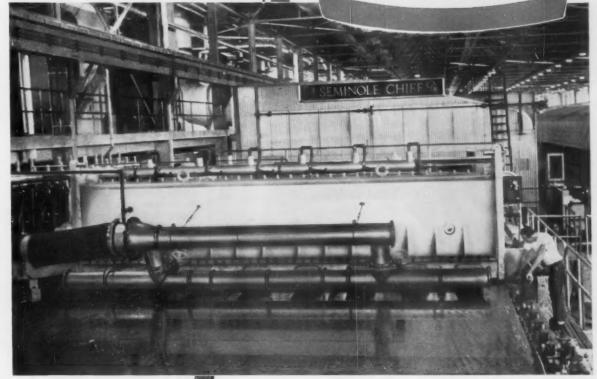
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Title	

Company		
Address_		

Another pressure secondary headbox by





On ..

St. Regis Paper Company's new giant paper machine at Jacksonville, Florida.

VALLEY

IRON WORKS CO., APPLETON, WISCONSIN

PULP & PAPER

Strictly Personal

mgr. at Eastern Corp., Bangor, Me. . . .

Leonard A. Murphy, who joined Powell River Co. in 1948 as an engineering student and later worked as project engineer, has been named plant engineer, succeeding the late Gilbert D'Aoust. . . . Harry H. Grant, for many years with Powell River, who returned to Vancouver head office two years ago after the sale of Foley Lumber Co. in Florida, is back there, engaged in other business. . . .

G. D. Lewis, formerly mgr. of contracts in the paper machinery div., Dominion Engineering Co., Lachine, Que., has been appointed div. mgr. . . . Wendell H. Tiddeller H. Tiddeller Paper Co. He has been named mgr., industrial and public relations, Mersey Paper Co. He has been with the company since 1930. . . . G. D. F. Symons, who has held various positions with the company for the past 14 years, has been named eastern sales manager of Canada Paper Co., Howard Smith subsidiary. . . .



R. E. Arbogast, Ross Canada

F. W. Hooper, vice president and gen. mgr., Ross Engineering of Canada, Ltd., announces appointment of R. E. Arbogast as sales mgr. Mr. Arbogast is a graduate of Queens Univ. in mech. engineering and has had experience in steam plant operations, particularly in pulp and paper. He has been responsible for the sales and engineering of Ross Midwest Fulton drainage systems, in addition to Ross-Supertherm sales.



HERE IS NEW FASTNESS for popular yellow shades in sulphite bonds and ledgers, mimeo, offset printing stocks, and other grades to be written or printed upon. In addition, they offer good hue characteristics for grades such as specialty bags, waxings, etc. Excellent money values for all these grades, both Direct Yellow P-CD and Direct Yellow P-RCD have excellent light fastness and good fastness to acid and to water. Fastness to alkali is superior to that of most other Direct Yellows, being excellent to 1% sodium hydroxide. Direct Yellow P-CD and Direct Yellow P-RCD are completely bleached with low concentrations of sodium hypochlorite. In tests for compatibility with fillers, the runs show exceptionally good two-sidedness characteristics.



For full details, samples, etc., address ...

CIBA Company Inc., Paper Chemicals Department 627 Greenwich Street, New York 14, N. Y.

Pulpwood Personals

Crown Z's Northwest timber dept. has announced transfer of C. H. WILLISON, Jr., asst. chief forester, from Port Angeles, Wash., to Portland, Ore. He will assume increased responsibilities. CZ's timber and forestry assignments in Wash. State: K. C. Osier, mgr. of Puget Sound wood supply; B. F. Ross, supt., Neah Bay Tree Farm; R. A. Brandes, resident forester, Olympic Tree Farm; and J. F. Barinaca, resident forester and pulpwood buyer for Port Angeles div. . .

R. C. Hoerr was appointed wood procurement mgr. of Fibreboard Paper Products resources dept. according to dept. director Claude M. Stitt; W. P. Preuss succeeds Mr. Hoerr as wood buyer. . . . Alex E. Smith, formerly of Wenatchee National Forest, becomes asst. div. chief in information and education at Pacific Northwest region of the U.S. Forest Service, Portland. . . .

REX STRONG, supt. of logging at Hollis, Alaska, for Ketchikan Pulp Co., recently bagged a 350 lb. black bear with bow and arrow.....

Newly elected national officers of the Forest Products Research Society, Madison, Wis.: W. JETER EASON, vice pres., Nickey Bros. Inc., Memphis, Tenn., is new pres., succeeding Dr. F. H. Kaur-ERT, U. of Minnesota Forestry, who remains on the executive board; Dr. E. S. HARRAR, dean, School of Forestry, Duke U., is pres.-elect; R. H. BERRY, Scott Lumber Co., Burney, Calif., is vice pres.; J. J. Allegretti, director of product development and market research, Masonite Corp., Chicago, is midwest regional board member; and F. E. DICKINSON, director, U. of California Forest Products Laboratory, is southwest regional board member. . . .

Meeting Dates Notebook

1958

Aug. 7-8 National Council for Stream Improvement, Joint Meeting, Middle Atlantic, South Central Regions and Pennsylvania

The Greenbrier White Sulphur Springs, W. Va.

Sept. 4-6 APPMSA, New York-Canadian Div. Lake Placid Club, Lake Placid, N.Y.

Sept. 10-12
3rd International Mechanical Pulping
Conference
Chateau Frontenac Hotel, Quebec,
Que.

Sept. 12-13 APPMSA, Northwestern Div. Conway Hotel, Appleton, Wis.

Sept. 14-19 European TAPPI Study Group Annual Meeting Turino, Italy

Sept. 15-17 3rd International Fundamental Research Symposium Oueen Elizabeth Hotel, Montreal, Que.

Sept. 17 TAPPI Instrumentation Seminar Everett, Wash.

Sept. 18-20 **APPMSA Northeastern Div.** Poland Spring House, Poland Spring, Me.

Sept. 24-26 TAPPI Alkaline Pulping Conference Hot Springs, Ark.

Sept. 30-Oct. 2
TAPPI Testing Conference
Gen. Oglethorpe Hotel, Savannah, Ga.

Oct. 3-4 APPMSA Connecticut Valley Div. and TAPPI New England Section Berkshire Inn, Great Barrington, Mass.

Oct. 9-10 TAPPI Deinking Conference Biltmore Hotel, Dayton, O.

Oct. 10-11 APPMSA Penjerdel Div. Bedford Springs Hotel, Bedford Springs, Pa.

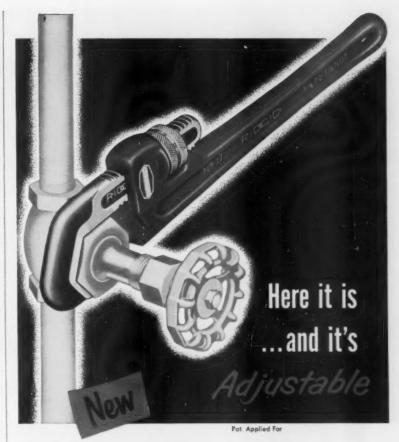
Oct. 14-16 Society of Industrial Packaging and Materials Handling Engineers Chicago Coliseum, Chicago, Ill.

Oct. 15-17 APPMSA Southern and Southeastern Divs. Read House, Chattanooga, Tenn.

Oct. 20-22 TAPPI Plastics-Paper Conference Sheraton-Kimball Hotel, Springfield, Mass.

Nov. 4-6 Canadian National Packaging Exposition Exhibition Grounds, Toronto

Nov. 5-6 TAPPI Corrugated Containers Conference Cincinnati, O.



RIDGID Hex Wrench

gives you Time-Saving, Positive, 4-Sided Grip on Hex Nuts, Square Nuts, Valve Packing Nuts, Unions, Gas Cocks

Here's the adjustable wrench you've always needed for hexes, squares and flatheads, rough or finished. Extra useful on every job. No more barked knuckles or rounded nut shoulders. New wide-open jaw goes on easy . . . won't slip off. 4-sided grip gives extra leverage. Stays to adjusted size during use.



Famous Pland heavy-duty construction with guaranteed housing. Narrow jaw design makes work easy in tight places even on thin nuts. Comfort-grip I-beam handle has handy hang-up hole. The new Pland Hex Wrench gives you more for your money than wrenches costing twice as much. Try it, buy it at your Wholesaler's.

The Ridge Tool Company

Elyria, Ohio, U.S.A.



Allan Hyer, Puseyjones V.P.

Allan Hyer, Puseyjones V.P. Since 1918 Mr. Hyer has been active in the paper machinery industry and held prominent sales executive positions with Bagley and Sewall Co. and Black-Clawson Co. He is a member of the Executive Reserve of the Dept. of Commerce. During the Second World War and Korean War, Mr. Hyer served in top allocation and advisory posts for this industry in Washington, D.C.



Herbert W. Beck, Sales Supervisor for Ciba Co., Inc.

for Ciba Co., Inc.
Formerly assistant to Ciba's general sales mgr., Mr. Beck has had more than 20 years experience in dye and chemical sales. A native New Yorker, he is a gradnate (ch. eng.) of Poly Tech Institute of Brooklyn. Married and the father of two teenage children, he and his family live in Glen Rock, N.J. He formerly was a chemical company mgr. in Portland, Ore., serving West Coast mills.



Norman Asst. Sales Mgr.

Eric B. Norman has been appointed assistant sales manager, B. F. Perkins & Son, Inc., Holyoke, Mass. He will be in charge of sales to paper and textile industries, will also assist C. A. Potter, vice pres. and gen. mgr., in plant produc-

Mr. Norman has been with Perkins six years, previously was public relations rep-resentative for 12 years with E. B. Eddy



DeWeese Swigert

Elected to Esco Board

Elected to Esco Board
R. W. deWesse, vice president in charge
of sales, and Henry T. Swigert recently
were elected to the board of directors of
Electric Steel Foundry Co., 2141 N.W.
25th Ave., Portland, Ore. Esco is a producer of high alloy ferrous metals and is
one of the largest specialty foundries in
the country, serving the pulp and paper
and other fields.



S. L. Crawshaw Named V.P. of Philadelphia Gear

S. L. (Roy) Crawshaw has been elected a vice president of Philadelphia Gear Corp., Erie Ave., Philadelphia (34), Pa., which he joined in 1955. He will direct its new high precision gear grinding activities. He is a past president of the American Gear Mfgrs. Assn. and was formerly prominent in the industry on the West Coast

West Coast.
Philadelphia Gear Corp, 66 year old firm, was formerly The Philadelphia Gear Works, Inc., changing its name June 1.



R. O. Reed, Sales Engineer, For Lamb-Grays Harbor Co., Inc.

Lamb-Grays Harbor Co., Inc., manufacturers of finishing room systems, has promoted Raymond O. Reed to sales engineering, according to Henry Fairbairn, general manager. Mr. Reed will assist Gile Mead, chief engineer, sheet finishing section, in customer service work relating to recently developed sheet finishing equipment.



"Howdy" Vanderberg Heads **Hubinger Paper Mill Sales**

Hubinger Paper Mill Sales
Howard L. Vanderberg, "Howdy" to
many friends, who has been in the starch
sales field for the paper and containers
industry for 29 years, is now manager of
paper mill sales for The Hubinger Co,
Keokuk, Ia. Roy Underwood, Hubinger's
manager of bulk sales, said Mr. Vanderberg will have overall responsibility in
the field work in this industry. He continues residence at 1920 So. Westnedge,
Kalamazoo, Mich. Born in 1920, Mr. Vanderberg started in the lab in the Groveton,
N.H., mill, and later was with Allied Mills,
Kalamazoo. He then went with A. E.
Staley Mfg. Co. for 29 years, making his
headquarters in Kalamazoo. headquarters in Kalamazoo.



MacDonald, Manager Appleton Machine Market Development

Machine Market Development John M. MacDonald has been named manager of market development for Appleton Machine Co. For the past five years he has represented the firm as sales engineer in its eastern division. Previously he was with Minnesota Mining & Mfg. He is a graduate of New York Military Academy and studied business administration at U. of Miami (Fla.).



Charles Kerckes in South for Cameron Machine Co.

His sales territory is Georgia, Fla., Miss., Tenn., and the Carolinas. He is a grad-uate of U. of Florida, lives in Clear-water Fl. water, Fla.





Torrington Spherical Roller Bearings Self-alignment + conformity + stability = smooth drier performance

Torrington Spherical Roller Bearings provide self-alignment across the 180"-face Rice Barton Corp. paper driers to assure Kalamazoo Paper Company smooth drier operation. They are used in drive and tending sides.

Uniform loading for both roller paths is secured by accurate geometrical conformity of races to rollers and through positive roller guidance against the integral center flange. Further assurance of long bearing life is Torrington's use of finest quality electric furnace alloy steel and the most advanced metallurgical methods.

These advantages of Torrington Spherical Roller Bearings add up to superior performance, longer bearing life and less paper machine down time. This means maximum profit for machine builder and user alike. The Torrington Company, South Bend 21, Ind.—and Torrington, Conn.

TORRINGTON BEARINGS

District Offices and Distributors in Principal Cities of United States and Canada

SPHERICAL ROLLER . TAPERED ROLLER . CYLINDRICAL ROLLER . NEEDLE . BALL . NEEDLE ROLLERS . THRUST





For Effective Removal of

RESIDUAL CHLORINE

Tennessee's Liquid Sulfur Dioxide is a most efficient and economical antichlor. Removes residual chlorine and other materials which cause color reversion or yellowing with age. It also eliminates excessive residual chlorine in water.

Available In:

- CYLINDERS
- . TANK TRUCKS
- . TON DRUMS
- . TANK CARS

We would like to consult with you on the possibilities of Tennessee's Liquid Sulfur Dioxide in your processing.



617-29 Grant Building, Atlanta, Georgia

The right rotary joint for every need!

ON PAPER

CORRUGATORS

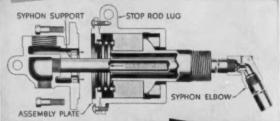
. CALENDERS

. ROOFING MACHINES

. WAXERS

. EMBOSSERS

PRINTING PRESSES



Type "SBP" shown is completely self-supporting. Like all Johnson Joints it has no packing, needs no lubrication or adjustment. The syphon elbow replaces unwieldy curved condensate drainage pipes with two straight pipes, hinges to pass right through the joint. Write for Bulletin S-3002. Johnson Rotary Pressure Joints are available for all operating speeds, pressures, mountings.

Johnson
ROTARY
PRESSURE
Joints
First in the
Paper Industry

THE JOHNSON CORPORATION

849 Wood St., Three Rivers, Mich.

The Swing to OWENS increases

Meeting every test, as never before attained, Owen Grapples are being installed by pulpwood handlers in ever increasing numbers.

The factors:

Great gripping ability and load capacity — Speed and ease of operation —

Low Maintenance cost.

The OWEN
Pulpwood
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THE OWEN BUCKET CO.

BREAKWATER AVE., CLEVELAND 2, OHIO
BRANCHES: New York • Philadelphia • Chicago
Berkeley, Calif. • Ft. Lauderdale, Fla.
SOUTHERN CORPORATION, CHARLESTON, S.C.

New Equipment Section

New Cleaning Units . Remove Shives, Dirt



Applications: Removal of shives, fine and light dirt from pulp and paper

Advantages: Free vortex, drop-inpressure Cyclean cleaning unit is built of stainless steel. The 4 in. Cyclean has non-plugging, automatic purge tip. Use of cleaning units is said to increase sheet quality and uniformity, wire life and paper machine output due to reduced down time and faster operation.

Specifications: Available in 4 in. dia. with inlet capacity of 36 gpm; 7 in. dia. with 120 gpm inlet capacity; and 12 in. dia. with 500 or 850 gpm inlet capacity. Pressure drop is 50 lbs. psi. Supplier: Bird Machine Co., South Walpole, Mass., WAlpole 400.

Glassed Centrifugal Pump . . . Is Acid-Resistant



Applications: For handling corrosive

Advantages: Permanent fusing of glass to metal gives great structural strength. Glassed portions cannot be cracked or shattered by mechanical impact and will withstand quick changes in liquid temperature up to at least 200° F. differential and higher, depending on operating conditions. Glassed surface is easily flushed for thorough cleaning. There is no catalytic effect exerted by the glass in any known case.

Specifications: All parts of pump in contact with corrosive materials are glassed and resistant to all acids at 212° F. and more, except hydrofluoric acid, and alkalis up to pH 12 at 212° F. The pump is available in heads up to 140 ft. and in four sizes for capacities up to 700 gpm.

Supplier: Goulds Pumps, Seneca Falls, N.Y., LOgan 8-5811. Ask for Bulletin 725.2.

New Paper Cutter . . . Gives Accuracy and Control



Applications: For registration sheeting and general purpose finishing room

Advantages: Type "G" cutter features complete sheet control, extreme accuracy in sheeting and piling, high speed operation, low operating cost and a streamlined appearance.

Specifications: Available in widths up to 46 in. Components include heavy steel side frames, new dynamically balanced high speed knife cylinder, reciprocating jogger, back and side joggers, new screw type elevating system, overhanging piler, air con-trolled pinch rolls, no back lash double differential, high speed tape system overlapping delivery, new shear type slitter and patented corrugated slice.

Supplier: Clark-Aiken Co., Lee, Mass., tel. Lee 700.

Gas Absorber

. . . Scrubs Vent Gases



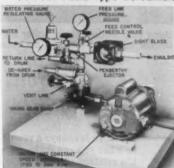
Applications: For scrubbing vent gases where composition varies from acid to alkali, handling laboratory vent problems as well as small process ventilation.

Advantages: Unit shell, entirely of in. polyester resin bonded fiber glass, resists fire and chemical attack and has high mechanical strength. All interior spray piping and nozzles are rigid polyvinyl chloride. Washer cell frames are also made of PVC for maximum corrosion resistance.

Specifications: Unit has three stages: first, a Monel perforated Neva-clog screen to remove solids or other particulate matter; second, 4 in. deep fiber glass filter cells (both first and second stages are sprayed with absorbing liquid automatically maintained at fixed pH to minimize corrosion and consumption of neutralizing chemicals); and third, a 2 in. deep Dynel filter cell designed for entrained moisture droplet removal.

Supplier: Buffalo Forge Co., Air Cleaning Div., Buffalo, N.Y., CLeveland 4567.

Automatic Dispenser . . . For Paste-Type Defoamers



Applications: Handling and mixing paste-type defoamers.

Advantages: The dispenser continuously emulsifies defoamer paste with water and feeds emulsion to the process at rate selected by operator. A by-pass line returns excess paste to the drum and another line vents air from the emulsifying process to minimize any tendency of the pump to become airbound. The dispenser has been successfully operated in the field on sulfite and sulfate processes in the pulp mill and on the paper machine. Specifications: Although components can be varied to suit specific applications, equipment consists essentially of a motor and gear pump, feed control needle valve and water pressure regulator.

Supplier: E. F. Houghton & Co., 303 W. Lehigh Ave., Philadelphia 33, Pa., REgent 9-7100.



Using stop motion, photographer Bernard Hoffman 'freezes' a tiny jet of water. Discharged at high pressure, the stream is a solid, unwavering mass.

Controlling Pressure in Fluid Engineering

Pressure is always a problem . . . either how much you need, or what you can do in spite of it. Accurate control requires the relation of other factors, like volume, time, and resistance. To get these answers, you can depend on the engineering leadership of S. Morgan Smith.

Take butterfly valves. Parts for a wide range of standard R-S Butterfly Valves, capable of satisfying most processing requirements, are carried in stock for fast assembly and shipment. These R-S Valves, with their streamlined vanes, give you minimum pressure drop, save pumping power. Regulation and closure are quick, and you get uniform flow control through all positions in the normal regulating range.

To obtain full information on the complete SMS line-R-S Butterfly Valves, Rotovalves or Ball Valves-call our nearest representative. Or, write S. Morgan Smith Co., York, Pa., for data on standard valves or special applications.

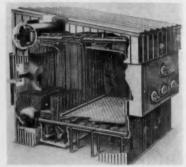




AFFILIATE: S. MORGAN SMITH, CANADA, LIMITED, TORONTO

Rotovalves • Ball Valves • R-S Butterfly Valves • Free-Discharge Valves • Liquid Heaters • Pumps • Hydraulic Turbines & Accessories

Steam Generator ... Saves Fuel and Other Costs



Applications: For power, process or heating loads requiring steam capacities up to 400,000 pph.

Advantages: Boiler has advanced design in "Membrane Wall" prefabricated furnace construction using welded tubular furnace wall panels. Pressurized-furnace design eliminates induced draft fan and saves on fuel, fan and power costs. There is only one fan to operate and maintain and need for all internal closure refractory is eliminated.

Specifications: The PFI boiler is available for steam pressures up to 1,150 lbs. per sq. in. and for steam temperatures up to 900° F. Boiler can burn either oil or gas or combination of the two. Cyclone Steam Separators completely separate steam and water. Supplier: Babcock & Wilcox, 161 E. 42nd St., New York, N.Y., MU 7-6700.

New Bleeder Valve

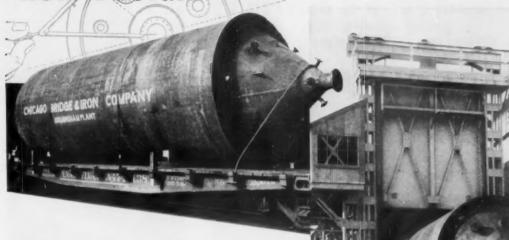
. . . Is All-Plastic



Applications: For bleeding, sampling or drawing off small amounts of liquid from pipe lines, duct systems, tanks and similar applications.

Advantages: Made of non-toxic, noncorroding and non-aging polyvinyl chloride, the valve has no packing and operates like a drain cock on automobile radiator or steam boiler. Seal formed by back seat at base of valve stem insures tight closure. Lefthand threading makes valve close when hand-wheel is rotated in stand-

FROM DESIGN to Fabrication and Erection



offers complete 4 point DIGESTER SERVICE

Profit from pulp takes more than a mill and men to run it. The same will be true of the next digester you buy.

That's why CB&I offers a complete and expertly coordinated 4 point digester service. Our facilities to (1) design, (2) engineer, (3) fabricate and (4) erect are duplicated by few, if any other, sources.

Complete stress-relieving facilities are maintained at each CB&I plant. And CB&I crews are fully equipped and experienced for field stress-relieving. Partial or full X-ray and magnetic particle examination of structures in shop or field is available to meet all code or customer requirements.

Hortonclad®, CB&I's exclusive, vacuum bonding process can provide digester cladding of integral, continuous bond having exceptional strength and corrosion resistance.

These are but a few of the reasons why CB&I digesters and pulp plant equipment are selected for the most rigid requirements. And, why CB&I services offer an exceptionally high degree of quality control between shop and field. A bulletin on CB&I Pulp and Paper Structures and our Field Services bulletin will provide more details. Write our nearest office for your copies.



PP-25



Chicago Bridge & Iron Company Allanta • Birmingham • Boston • Chicago • Cleveland • Detroit • Houston New Orleans • New York • Philadelphia • Pittsburgh • Salt Lake City

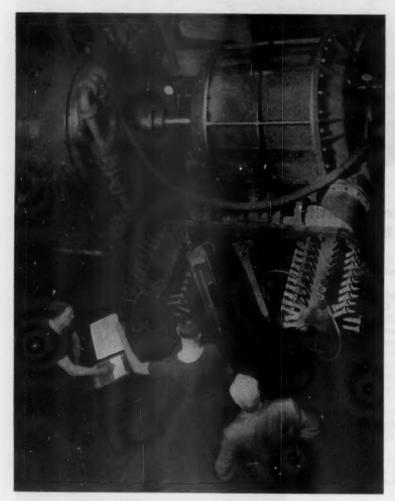
Atlanta • Birmingham • Boston • Chicago • Cleveland • Detroit • Houston New Orleans • New York • Philodelphia • Pittsburgh • Salt Lake City San Francisce • Seattle • South Pasadena • Tulsa Plants in BIRMINGHAM, CHICAGO, SALT LAKE CITY, GREENVILLE, PA. and NEW CASTLE, DEL.

Top left: 40-ft. long digester designed for working pressure of 150 lbs. per sq. in. leaves our Birmingham plant where it was X-rayed and stress-relieved.

Middle: Digester leaves CB&I stress-relieving furnace at our Birmingham plant. Furnace can handle vessels up to 13-ft. diam. by 79-ft. long in one heat.

Below: 60-ft. high digesters erected, stress-relieved and seam welds X-rayed in the field by CB&I at Weyerhauser's 400-ton sulphite pulp mill at Cosmopolis, Washington.

Rated performance of every Nash Vacuum Pump is assured by this precise laboratory test



Rated capacities of Nash Vacuum Pumps are not theoretical. Every Nash Pump is tested individually. Air capacity is determined by delivery thru accurately machined and calibrated orifices. Related vacuum is measured by precise mercury column, and horse power is recorded electro-dynamically. Records of these tests are retained by us, and certified copies are available to Nash Pump owners.

That is one of the reasons why Nash Vacuum Pumps are installed in over a thousand leading Paper Mills. An engineer from Nash will be glad to survey your mill, and make recommendations, entirely without obligation to you.

NASH ENGINEERING COMPANY

440 WILSON ROAD, SO. NORWALK, CONN.

ard clockwise direction. It has been tested successfully at pressures up to ten times recommended working pressures for PVC systems,

Specifications: Available in % in. size with male IPS threads. Can be screwed into any female threaded % in. fitting or fixture, or used with appropriate bushings for size adjustments.

Supplier: Walworth Co., 60 E. 42nd St., New York, N.Y., MUrray Hill 2-7060.



Tubings and Fittings Catalog

A 56-page catalog describing FelkerWeld tubing and fittings is just off the press. Includes measurement diagrams, and illustrations; comparison chart and gauge fabrication details. Copy upon request from Felker Bros. Mfg. Co., Marshfield, Wis. Phone: 230-231.

Felt Cleaning Guide

Latest of the technical bulletins being offered to papermakers by Huyck Felt Co. is "Mechanical Methods of Felt Cleaning" by JOHN C. SPICER, field service engineer. It describes various continuous felt cleaning systems. Copies free of charge by writing Huyck Felt Co., Rensselaer, N. Y.

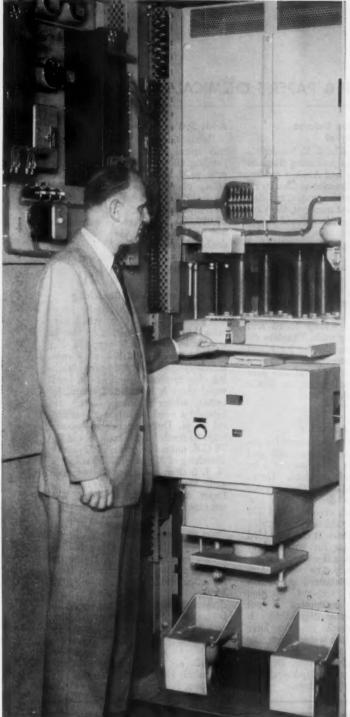
B.C. Map Available

For the first time, the British Columbia government is offering for sale a map of the province showing the complete forest inventory. The map measures 26x33 in. and is colored according to the type timber stand. It is offered by the Forest Survey and Inventory Division, British Columbia Forest Service, Victoria, B. C., for \$1.05 including tax.

New British Dryer Hood

Adamson Engineering Co. of Pasadena, Calif., has been appointed exclusive agency for eleven Western states for the Greenbank drying hood, made by Greenbank Engineering Co. of Blackburn, Eng-

Announcement of the appointment was made by George Adamson, president of Adamson Engineering. The hood, he said, is installed over the drying rolls, and is designed to effect an increase of 60% in production.



SAFETY YOU CAN SEE

With "visual break" design of circuit breakers used in G-E Metal-clad Switchgear

The man who operates General Electric Metalclad Switchgear doesn't have to guess whether breakers are completely disconnected—he can actually see when primary disconnects are parted.

This tangible contribution to safety is made possible by General Electric's vertical-lift principle of operation. Because of vertical-lift, General Electric Metal-clad Switchgear provides "visual-break" safety for operators, plant and equipment.

Further safety is provided by positive interlocks which prevent raising or lowering the breaker unless it is open, and by shutters which automatically shield stationary contacts as soon as the disconnects part.

In addition to "visual-break," General Electric's vertical-lift operation gives you:

- minimized danger of breaker tip-over because of a lower center of gravity
- protection against non-functional hazards because arc chutes and mechanism are covered
- reduced replacement work and maintenance because contacts are protected from falling arc products which cause corrosion and pitting.

For details about the many other advantages of Metal-clad Switchgear, contact your nearest G-E Apparatus Sales Office. General Electric Co., Schenectady, N. Y.

"VISUAL-BREAK" OPERATION greatly simplifies breaker handling during inspection and maintenance. Operators can see when primary disconnects are parted—for safe breaker removal. Breaker's lower center of gravity minimizes the danger of breaker tip-over.

Progress Is Our Most Important Product

GENERAL ELECTRIC





Lubriplate No. 630-2 is a high temperature, extreme pressure, water-repellent, grease type lubricant. Ideal for the general lubrication of Industrial, Automotive, Construction, Farm and Marine Equipment. Lubriplate Grease Gun Cartridges provide an easy, quick, economical means of application. Prevent the waste and mess of hand filling. Packed 10 Cartridges in a handy carrying earton.

REGARDLESS OF THE SIZE AND TYPE OF YOUR MACHINERY, LUBRIPLATE LUBRICANTS WILL IMPROVE ITS OPERATION AND REDUCE MAINTENANCE

For nearest Lubriplate distributor see Classified Telephone Directory. Write for free "Lubriplate Data Book"... a valuable treatise on lubrication. Lubriplate Division, Fiske Brothers Refining Company, Newark 5, N. J. or Toledo 5, Ohio.



PULP & PAPER'S CHEMICALS COLUMN

Vanderbilt Rayox Returns To Titanium Market

Rayox is back. The R. T. Vanderbilt Co., Inc., is again producing titanium dioxide in Rutile and Anatase grades. In 1930, under direction of Charles H. "Chuck" Champion, manager, and Ray E. Harter, assistant manager, the Vanderbilt paper dept., introduced Rayox to the paper industry. !e of the product was temporarily discontinued in 1953.

Rayox sales will be re-launched from Vanderbilt offices in New York City, Portland, Ore., Kalamazoo, Mich., and Savannah, Ga.

When introduced nearly 30 years ago, Rayox was widely tested and approved in many mills. Titanium dioxide soon became a prime ingredient in paper manufacturing. The company announces it now has available pure titanium of finest quality, in Rutile and Anatase grades.

New Wet-End Additives

Two new wet-end additives for paper and boxboard, Adcol 300 and Arobond 80, are being marketed by Industrial Cereal Products Dept., Archer-Daniels-Midland Co., Minneapolis. Both are derived from sorghum grain starch sources. Adcol 300 is specially processed for high quality wet-end applications. It can be added dry to the beater for boxboard or cooked in the normal manner for addition to the headbox or beaters. Arobond 80 is pregelatinized and is rec-ommended for wet-end addition where cooking equipment is not available and water dispersibility is desired. The starch granules have been converted to a water dispersible form for easiest application in many adhesive and colloidal uses. Dry addition to the beaters or Hydra-pulpers yields lump-free dispersions.

Adds Sodium Chlorate Capacity

Hooker Chemical Corp. (new name) will spend another \$1,000,000 expanding Oldbury brand sodium chlorate production at the Columbus, Miss., plant. To be completed by April 1959, this will bring Hooker's total investment at Columbus to about \$7,000,000. Three major increments will have then been added, more than doubling original capacity of 12,000 tons per year. Most recent expansion went on line July 1.

Booklet on Peroxide Bleaching

DuPont's Electrochemicals Dept. has issued a new booklet which contains the latest information on bleaching groundwood with peroxide. For the first time information on a commercially-operating process for bleaching chip mechanical pulp from hardwood chips is included. Demand for better, whiter printing papers has brought a need for brighter mechanical pulps. DuPont work has shown ways to reach brightness levels of 75-78 G.E. units. For copies of "Peroxide Bleaching of Mechanical Pulps," write N. J. Stalter, manager, Development and Service, Peroxygen Products, Paper & Chemicals, DuPont, Wilmington 98, Del.

Data on Tissues Defoamer

Nopco Chemical Co. has just released information on a liquid defoamer designed primarily for tissue furnishes and color coatings. Called Nopco 1325-P, the product is used during tissue manufacture to inhibit foam formation at the paper machine, and, in color mixes, to break surface fcam and prevent air entrainment. Free copies of data sheet on Nopco 1325-P are available from Paper Chemicals Div., Nopco Chemical Co., Harrison, N. J.



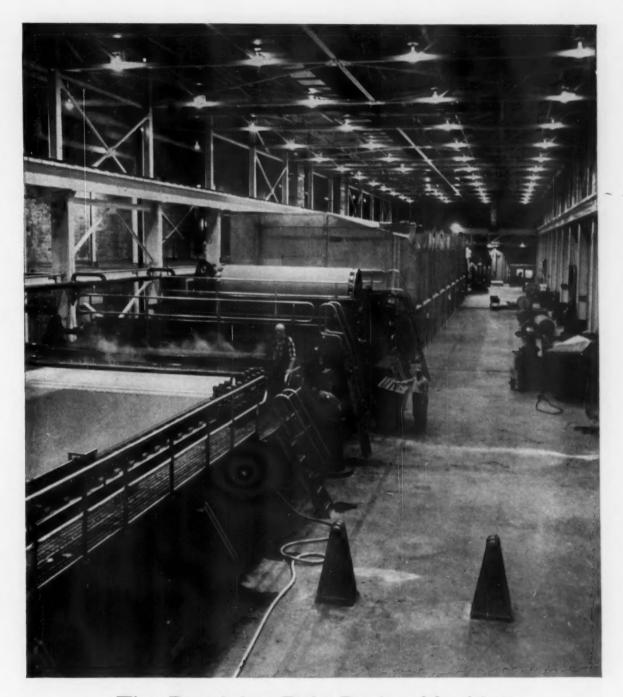
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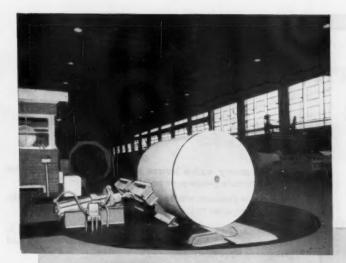


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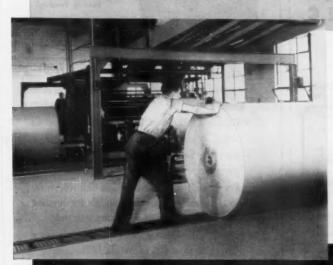
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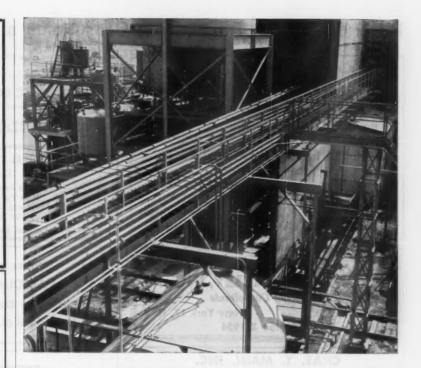
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The Last Word PARE

Editors' Page

First Magazine of Its Kind

PULP & PAPER INTERNATIONAL is a new name in the publishing field.

As you probably will guess, it is a sister publication of PULP & PAPER.

This month the first issue of PULP & PAPER INTER-NATIONAL is going to virtually every pulp mill in the world. Never before has this industry had a publication of this kind.

The new magazine will cross all frontiers, bringing to all countries where pulp and paper is made the most important new management and manufacturing ideas and

developments from all parts of the world.

The first edition of PULP & PAPER INTERNA-TIONAL is a separate version of the 1958 World Review Number of PULP & PAPER, but separately and distinctively edited for readers abroad. And here is big news:

Beginning Jan. 1959, PULP & PAPER INTERNA-TIONAL will be published every month, just as PULP & PAPER is. Some material which is significant and useful to both circulations will appear in both publications. But there also will be special and exclusive material in each one. For each magazine will be separately edited to best serve its separate readerships.

There has been a need for PULP & PAPER INTER-NATIONAL for many years. For this industry is truly international in scope. Evidence of this is the increasing number of international meetings and the increasing travel abroad of industry executives, engineers and technicians, in both directions over the oceans. Market woodpulp is now a billion-dollar business in world trade. Paper and paperboard are becoming major commodities in world commerce.

The "awakening" nations all over the world are demanding better lives for their people. More than milk, metals or money, paper is the true measure of living standards in every land. It is the measure of literacy and civilization.

The supermarket has come to Europe. Southern Europe is producing its first facial tissue. First paper mills are rising or have risen in many Asiatic and African outposts. Mexico has its first newsprint mill.

It is obvious that nothing will stop the march of pulp, paper and paperboard.

A Short Mill Visit!

The resident manager of one of the Southeast Coast mills will probably always recall an historic-and probably the briefest on record-visit made by William F. Diehl, Jr., Southern editor of PULP & PAPER.

Before Mr. Diehl could reach a seat, to begin what he planned to be at least a day-long visit and mill tour, the telephone rang with an emergency call for him.

He went flying out the door, homeward bound, undoubtedly setting a cross-country record driving to Atlanta. And arrived just one hour before the stork-about 2 a.m. July 9. The Diehls greeted a new 6 lb. 2 oz. son, named Standford Arnold Diehl. Now they are a family of fivetwo sons and a daughter.

Call Corrugated, Corrugated

A guest editorial-by Bryant W. Langston, president of Samuel M. Langston Co.:



Bryant W. Langston

"Everyone assumes that the man who first recommended calling a spade a spade was an advocate of frankness and honesty-devoted to the use of plain words. If we may indulge in a bit of fantasy, it is possible he was a maker of spades, a man who wanted to be sure that his product was known and used.

The corrugated container industry could well take a lesson from our imaginary spade manufacturer. His

publicity campaign not only put his product on the lips of everyone but his slogan to call a spade a spade has

come to mean calling a thing by its right name.

"Among corrugated and solid fiber box manufacturers, corrugated represents about 95% of production. As a major product, its overwhelming importance merits emphasis to distinguish and identify it among all other packaging materials. Yet we find men in the container industry-men who are 95% dependent on corrugated-still going along with references to fiberboard or fiber box when corrugated is meant and in contexts where they themselves normally would say corrugated.

'If this confusion exists in our own shop talk, how can we expect the public not to mix up corrugated with fiberboard, pasteboard or cardboard? And we might seriously ask ourselves what we expect to gain in widespread promotion of corrugated as long as the public-including the businessman and manufacturers who are customers and prospects for corrugated manufacturers-as long as these people confuse corrugated with other materials.

"Corrugated is a leader in packaging because, among other reasons, it is lighter, stronger, more resilient, relatively less costly, lends itself more easily to design and printed message and to automatic devices. The word, corrugated, must be made a symbol for all of these assets combined in one packaging material.

"Isn't it time for more of us to recognize this and call a spade a spade and corrugated, corrugated?'

Anomaly . . .

- "The wind's falling off. Break out more sail," said the skipper
- "This is a steep up-grade. Give her the gas," said the
- "Head wind is picking up. Open the throttle," said the
- "Current's getting stronger. Better shake my tail," said the salmon .
- "Sales are falling off. Curtail the advertising," said the president from a recent advertisement by Gray & Rogers, Advertising and Public Relations firm, Philadelphia, Pa., and Newark, N. J.

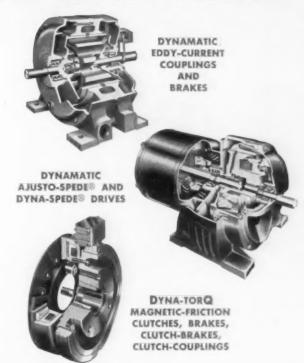


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